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THE INDIAN LANCET.

A Weekly Journal of Medicine, Surgery, Public Health and of General Medical Intelligence.

Edited by RUDOLPH MONNIER M.B., M.S., Edin.

Vol. XXXI. CALCUTTA, MONDAY, APRIL 20th, 1908. [No. 16

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THE INDIAN LANCET.

Vol. XXXI.] CALCUTTA, MONDAY, APRIL 20th, 1908. [No. 16

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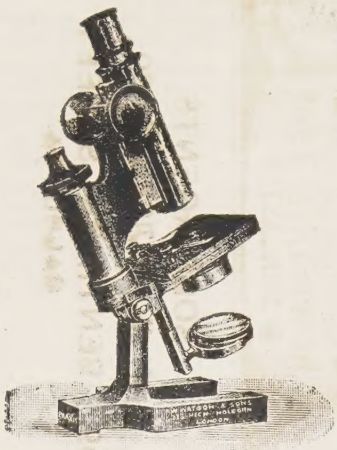

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Qui docet, discit

THE STOMACH AND ITS ABUSES.

By Matt Otey Burke, A.M., M.D.

During the first phases of man's life he had but little need of a stomach as a food receptacle, but when he took up farming for a livelihood he at once felt the necessity of an internal lunch basket, and nature set about developing one.

For two thousand years he was a vegetarian; during this time he developed that portion of the alimentary canal between the œsophagus and duodenum to such an extent that he had a pouch large enough to carry his rations in from one meal to the next. Physiology teaches us that the stomach is a hollow musculo-mucous organ situated just below the diaphragm, beginning where the œsophagus ends and ending where the duodenum begins. The stomach holds from two to three pints and secretes about fifteen hundred grams of digestive juice per day. This juice is composed of hydrochlorte acid, pepsin, a milk curdling ferment and water. This material is secreted by the tubules of the mucous membrane of the stomach, and digests the food known as proteids. The contractions of the muscles of the stomach produce a peculiar churning motion which thoroughly mixes the secretions with the food, a grinding motion at the pyloric end and mashes the coarser particles of food that should have been mashed by the teeth, and eventually pushes the food into the duodenum. The stomach digests its portion of the proteids and empties itself in three to seven hours. It does not dump the food all at once but deals it out in small quantities just as the intestines demand it and are able to handle it. The pepsin-forming substance is secreted by the chief cells of the tubules both in the fundus and in the pylorus. The hydrochloric acid is formed by the parietal cells only in the fundus. The milk curdling ferment is formed by the chief cells.

Muscular contractions of the walls of the stomach are stimulated by the presence of food, by hydrochloric acid, and by reflex nervous action.

Certain articles of diet cause an abnormal amount of gastric juice to be secreted, others cause a decreased amount of secretion, some destroy the pepsin while others neutralize the acid.

The glands begin to secrete in four to ten minutes after the food has been introduced into the stomach; from five to fifteen minutes when introduced into œsophagus but not into the stomach. Food begins to pass through the pylorus in ten to twenty minutes. The chief function of the stomach is that of a food receptacle, next in importance is its churning and grinding process, then its power of digesting proteids, and last but by no means unimportant is its ability to empty its contents into the duodenum in such quantities as the intestines demand.

The hydrochloric acid is an antizymotic and antiseptic in that it prevents putrefication and destroys many pathogenic organisms.

We begin to abuse the stomach at a very early age; fortunately, nature rebels and the stomach easily throws off the offender before very much harm has been done.

The infant often nurses too much. With very little effort he vomits and thus gets rid of the surplus. A little later when the child has access to all kinds of foods, fruits, nuts, etc., he eats many times when the system does not require food, and as a consequence, pain vomiting or diarrhea result.

Very often the stomach is dilated; most of the time the walls are irritated and the glands are over stimulated.

The child eats and appropriates far more food than the adult. Then why does he not suffer the same consequences? First, his alimentary canal is far more active and he digests and absorbs more food; he also gets rid of more waste material and absorbs less poison from the decomposition of food. He is constantly in motion; hence he burns up more tissue, his skin, kidneys, lungs and bowels are more active, and he obeys nature's calls at once; hence he gets rid of the poisons which the adult often stores up for future trouble. While the child is overcoming the effects of abusing the stomach by eating too much, too often, and improperly, he is at the same time laying the foundation for trouble in after years; nature always requires value received, and we must pay the price.

Girls between the ages of thirteen and eighteen, at the most important period of their development, need suitable nourishing food, foods that supply all the tissues at as little expense

to the system as possible, taken in proper quantities and at sensible times so as not te overtax the stomach in its different functions. Not candies and sweets half hour before meals, for they dull the sense of hunger and decrease the secretion of gastric juice. Not pickles, crackers and cakes that easily ferment, forming gases, alcohols, etc., to distend the walls of the stomach, cloud the minds and split the head.

The young men and the young women who are the bread makers of our world rush to work early in the morning, have only a few moments for lunch, then hasten back to work too often bolt their food, chewing it only enough to get it in swallowing condition, taking off the rough edges, then wash it down with a glass of water or a cup of coffee.

The stomach has not teeth and man does not ruminate nor swallow gravel; hence the lumps are almost sure to cause irritation to the mucous membrane, the muscular walls and the secreting apparatus producing increased grinding, excessive secretion of gastric juice and mucus.

These people are sooner or later victims of hyperchlorhydria, gastric catarrh and constipation.

Housekeepers and cooks are constantly tasting food, sometimes too cold, frequently too hot, thus stimulating the glands of the stomach, too much and too often, frequently destroying or injuring the delicate lining of the stomach. These suffer from ulcers, hyperchlorhydria and their ills.

The men and women who eat too much, not one day in the week, but every day in the year, fill the stomach beyond its natural capacity, thus destroying the walls, destroying peristalsis, decreasing the secretion, and interfering with the mixing of the food and juices that are already secreted; the food ferments, thus increasing the dilatation, eventually causing a dilated stomach with angulation of the pylorus.

These people suffer from all kinds of pains, aches and discomforts.

Excessive mental anxiety will impede the muscular movements of the stomach and decrease or check the flow of gastric juices. Men who are engrossed with business affairs and lead sedentary lives, never dismissing their business from their minds, usually have poor appetites. In order to stimulate their appetites they have highly seasoned foods, wines, etc. They spur on the stomach with wine and eat really more than they digest, and digest more than is necessary to supply the deficiency from tissue waste.

These people not only have primary stomach troubles, but the stomach also suffers from the secondary effects of gout, arteriosclerosis, nephritis, etc.

The soda fountain is not an infrequent source of indigestion; the carbonic acid and syrup arrest the secretion of gastric juice and decrease the appetite.

We have the men who work on the farms, the railroads, and other outdoors vocations. These men should be the healthiest men in the world; because they have plenty of exercise, plain but wholesome food, good water, fresh air, and sunshine, they suffer at the hands of their cooks. Their bread is heavy and clammy, most of their meat is fried, their coffee is usually a black decoction of tannic acid. Their vegetables are boiled with so much bacon and so long that they are rendered unfit for food. These men also fail to chew their food; they eat hurriedly and often too much.

The people who are wholly occupied with political, financial or social affairs, who never let their minds have a day off are constantly attending public functions. The punch-bowl is generally popular; this whets the appetite, the repast is tempting not only to the palate but also to the eye. They eat because it tastes good, eat more because it looks good, then sandwich it with wine, then eat because others are eating, and drink because others are drinking; then eat more because the wine has choked the voice that cries enough. So the stomach is not only full but very full, and the wine has blocked the wire that sends the message to the glands and to the muscles; it not only checks the secretion and peristalsis but destroys much of the pepsin that has already been secreted.

At last we come to the poor fellow who begins with a drink now and then, then a drink now-and-now, until he has lost control of himself. He drinks to drown his sorrow, and he drinks because he is happy. He drinks when he is hungry, and he drinks when he is full. His stomach gradually slows up, the mucous membrane becomes inflamed, degenerates and atrophies; the muscles lose power of contracting and relaxing, and become hardened, and finally the factory is put out of business, and the poor wretch has paid the price.—THE VIRGINIA MEDICAL SEMI-MONTHLY.

The Maharaja of Cooch Behar is contemplating an extension of the Raj Hospital. As there is no ward in the hospital at present for respectable patients, the Maharaja has sanctioned a handsome amount for the creation of a new house for the purpose.

The great annual festival in Madras began the other day Cholera, fever, and smallpox is said to prevail. Though there is no acute famine, high prices prevail, causing widespread distress. There is a universal cry for drinking water.

A CONSERVATIVE TREATMENT OF SARCOMA.

By W. Wayne Babcock, M.D., and George E. Pfahler, M.D.

Summary.

Sarcomas fall into two clinical classes: (a) those relatively benign, comprising the majority of the central sarcomas of long bones, the myelomas, giant-celled sarcomas, and certain fibro-sarcomas, which may be eradicated by simple resection, enucleation, or, at times, even by curettement; and (b) those very malignant, including the periosteal sarcomas of long bones, the melanotic, small round-celled and neuro-sarcomas, which almost invariably lead to death within a few years after their appearance, despite the most thorough excision, resection, or amputation known to surgery.

2. Early and more radical operative measures of great value in combating carcinoma have increased the early mortality and have not clearly decreased the tendency to recurrence and metastasis in sarcoma.

3. High amputation, usually unnecessary, and unjustifiable for the more benign sarcomas, usually is unavailing against the more malignant.

4. Of the very malignant tumors, sarcomas are most prone to spontaneous disappearance, or to retrogression after X-ray treatment, the injections of certain toxins, or after pyogenic infections; on the other hand, they are least amenable to radical operative treatment.

5. Traumatism is the most powerful localizing agent for the primary growth in sarcoma; operative traumatism the most powerful localizing agent for the recurrent growth; in other words, excise, resect, or amputate where you will, the return of the sarcoma usually will be in the scar.

As a corollary:—

6. Operative traumatism should, as far as possible be limited to the field of the sarcoma, so that recurrence may not be invited to a new or distant point.

7. The life and growth of the primary sarcoma rarely directly cause cachexia or a fatal issue, the death and decomposition of the tumor-cells are the most potent factors in the production of cachexia and a frequent cause of death of the patient. The duration of life, therefore, is often measured by one's ability to combat necrotic processes in the tumor.

8. Pending the development of better therapeutic agents, the combination of (a) judicious subcapsular enucleation, (b) massive and prolonged Roentgenism, (c) the topical employment of methylene blue or pyoktanin, and (d) occasionally the internal administration of certain drugs and toxins is commended as offering results in the treatment of the very malignant or recurrent types of sarcoma superior to those obtained by the most extensive and desparate surgical eradication.

The Futility of amputation.

It is difficult to prove the beneficence of amputation for sarcoma. From a lack of careful microscopic study a relatively benign myeloma, a giant-celled sarcoma, a central sarcoma of long bones, or a chondroma may be classed with the very malignant periosteal tumors, and the freedom from recurrence in such a case may be cited as proof of the value of the amputation. Thus, of 68 cases of amputation for periosteal sarcoma of the femur collected by Butlin only one patient was known to be alive three years from the time of operation, and in this case there was doubt as to the periosteal origin of the tumor. Of Butlin's 18 cases of periosteal sarcoma of the humerus treated by amputation, 2 cases of possible cure occurred in patients regarding whom there was a doubtful diagnosis. Again, the patient may recover despite instead of because of the operation. Of Wyeth's 5 cases of disarticulation at the hip-joint for sarcoma 4 died in from six to twelve months after the operation from return of the disease. The fifth case was least favorable, the disease having already invaded the acetabulum which was curetted at the time of the operation, but free excision of the diseased area was not made. A severe pyogenic infection developed in the wound after the operation, and as the amputation could not be classed as a radical extirpation of the sarcoma it seems probable that the infection rather than the operation is to be credited with the apparent cure in this case. Similarly, after 6 disarticulations of the hip-joint done by Coley for periosteal sarcoma none was known to be alive eighteen months from the time of operation. A seventh patient refused amputation and was treated by X-rays, the injection of mixed toxins, drainage, and curettage, and yet despite the occurrence of two large metastatic growths in the trunk, the man was apparently well five years after the operation. Again, in 2 other cases of apparent sarcomas of long bone, seen by Coley, operation was refused and the patients passed into the hands of non-professionals who administered herb teas. In both of these cases the sarcomas disappeared. It is, therefore, evident that the benignancy of the particular tumor, the influence of various pyogenic infections, and the tendency for spontaneous disappearance occasionally noted in sarcoma must be excluded, before we can positively attribute a cure to the operative procedure. It is less difficult to find evidence that operative treatment is distinctly harmful. Wyeth's statistics show a primary mortality of about 11 per cent from the bloodless method of disarticulation at the hip-joint for sarcoma. Morel's statistics show no

mortality when the modern interscapulo-thoracic amputation of Berger is done for benign growths (10 cases); a mortality of 3.12 per cent when it is performed for sarcoma of the humerus (64 cases); and an operative mortality of 25 per cent when performed for sarcoma of the scapula (20 cases). After this extensive operation for sarcoma of the humerus about one half of the patients soon show generalisation or recurrence of the growth, with an average longevity of nineteen or twenty months. Of the 75 per cent who survive the operation for sarcoma of the scapula over two thirds die of recurrence or metastatic growths, with an average duration of life of only thirteen months. Permanent cures from operation for sarcoma of the humerus, proven to be periosteal and not central or myeloid, are almost unknown.

The incidence to accidental and operative traumatism.

Prolonged or frequently repeated irritations favor the development of carcinomas; abrupt violent injury that of sarcoma. Thus the prolonged irritation of a clay pipe, a carious tooth, gall-stones, inveterate or protracted ulceration, eczematous inflammation, irritating cicatrization, or the friction of paraffin or soot impregnated clothing often precedes the development of carcinoma. A severe contusion, a crushing injury, or a fracture seems often clearly to predispose to sarcoma. In our series one patient in stooping struck her head violently against a table, and within two months there developed an enlargement from a sarcoma of the frontal bone. A second case, a robust young man, was thrown violently against a car seat, bruising the testicle; within a week the organ was nearly twice the normal size from sarcomatous change. A third patient had a heavy fall upon the shoulder, and the pain of the injury merged into that from a rapidly growing sarcoma of the upper end of the humerus. In a fourth case there was severe pain in the leg following the strain from a misstep which continued until the leg was amputated for sarcoma of the popliteal space about eight months later. In a fifth case a physician in taking apart a bed-stead hit himself a violent blow under the jaw, and one month later a melanotic sarcoma had developed in the region of the injury. A sixth case was that of a little girl who was struck by a stick over the left side of the jaw, and one month later a round-celled sarcoma was palpable on the mandible. The seventh patient accidentally struck his knee, and within four weeks a rapidly growing sarcoma of the lower end of the femur was noted. An eighth case was that of an elderly woman who developed melanotic sarcomas of the ankle following the irritation of an ill-fitting shoe. Two similar cases in which the foot was irritated by projecting nails in the shoe are recorded by Bland-Sutton. In about one third of the cases of sarcoma the history shows a suggestive relationship to some form of traumatism. If it be admitted that traumatism is a powerful determining or localising factor in the development of a primary sarcoma, an association between later traumatisms and recurrences or secondary growths may reasonably be expected. Of special importance is the relationship between operative traumatism, which is the most constant and severe type of injury patients with sarcoma endure, to the recurrent growths. Strangely enough, the fact that recidivity usually takes place in the operative scar seems to have attracted little or no attention. Apparently it makes little difference where the scar is placed, for if amputation be done at the knee, the tumor returns in the stump; if at the hip, the tumor returns about the cicatrix. In one patient, observed by a confrere, after an amputation at the elbow for sarcoma of the wrist the tumor returned in the elbow stump; disarticulation was then done at the shoulder; joint, and the sarcoma recurred in the shoulder; whereupon an interscapulothoracic amputation was performed which was followed by a rapid recurrence in the wall of the thorax adjacent to the scar. A second patient had an inoperable sarcoma of the orbit and apparently entirely recovered under X-ray treatment. Some time later a rhinologist resected an enlarged turbinate. This slight operation was promptly followed by a recurrence not in the orbit, but in the nose, the tumor progressing rapidly to the death of the patient. The time-worn observation that slight operations for warts or moles may induce rapidly progressive sarcomatous changes seems to be founded upon more than a mere coincidence. It may be evident that we consider the essential cause of sarcoma as being diffused through the body prior to the development of the local lesion. A child falls upon the back and develops Pott's disease, involving the body of a certain dorsal vertebræ; a youth is struck on the thigh and develops a sarcoma of the femur. It is as logical to consider that the tubercle bacilli originated in the vertebral body in the first case as to consider that the essential cause of sarcoma originated in the femur in the second. Altogether we feel justified in asserting that traumatism is the most powerful known predisposing factor for the primary growth in sarcoma and that operative traumatism is the most potent factor in determining the site of recidivity.

Indications for conservative treatment in Sarcoma.

Amputations are demanded for the removal of limbs, disorganized or rendered functionally useless by the presence of malignant growths. Amputations are not indicated for sarcomas of the extremities that have not rendered the part in-

capable of function, unless there be a fair promise of greater longevity and increased comfort after such operation. As against amputation there is the immediate high mortality, the mutilation incapacity, and the mental distress. If equal comfort and longevity are possible under conservative measures, these are clearly indicated. For periosteal sarcoma of the femur, for example, if under conservative treatment 90 per cent of the patients show an average duration of life of 12 to 18 months with a fair degree of personal comfort, and 10 per cent of the patients live for a longer period of time, this is distinctly preferable to having an immediate mortality of 11 per cent for disarticulation of the hip-joint and no greater average longevity to recompense the patient for the operative agony. Occasionally a patient, after disarticulation of the hip-joint for sarcoma, remains free from recurrence for three or four years, yet to obtain this occasional result it must be considered that eleven patients out of one hundred must be immediately sacrificed, and that over eighty out of every hundred will be subjected unavailingly to one of the most formidable and mutilating operations known to surgery. Moreover, as shown by Mikulicz and his followers, the ultimate results following excision or resection of bone for sarcoma are superior to those obtained by amputation. Likewise, for the extensive sarcomas involving the walls of the thorax, the pelvic bones, the maxillary antrum, and other situations where there is a high immediate mortality with but slight chance of complete eradication from the radical operation; conservative treatment, even though offering but little in the way of a permanent cure, if it presents any hope of prolonging life or increasing comfort, is carefully to be considered. In any case, however, the decision as to type of treatment should be determined by the patient or his friends after the average results obtained by different measures have been explained. For recurrent sarcomas the outlook is much graver, and it is for these cases especially that we would urge the further trial of a conservative form of treatment. Personally we are impressed by the thought that the less radical treatment is best for nearly all forms of sarcoma, but here opinion should be reinforced by larger experience.

Method of Treatment.

The measures that have been employed against malignant tumors include operative removal, the local use of radiant energy, topical applications or injections of chemicals, the internal administration of certain drugs and toxins, and a general roborant regime. The method of treatment that we would here advocate consists of certain of the milder surgical measures combined with a more persistent and thorough use of X-ray treatment than usually is given; certain topical applications and the administration of certain inhibitory agents. None of these measures are new, the combination and method of application of these generally known principles are the novel features of the treatment.

1. The field of Surgery.

We have indicated that operative treatment favors recidivity. It is likewise probable that metastases to internal organs, if they be not favored, at least are not prevented by operative invasion. Two other factors, however, menace the life of the patient, and against these surgery is most valuable. First, the tumor by its size or pressure may interfere with important functions, and second, and more common, the tumor in its growth exceeds its blood supply and undergoes necrosis and decomposition, so that quantities of dead and decomposing cells lie in the vascular absorptive area of the living part of the tumor. Then it is that quantities of septic and saprophytic products are absorbed into the body, profuse and recurrent hemorrhages often follow, and the patient falls into a condition of progressive toxemia and cachexia which not infrequently is fatal. That the cachexia of sarcoma comes more from the death and decomposition of the tumor-cells rather than from their life and metabolic activities is indicated by the results of surgical enucleation in these cases. If the capsule of the sarcoma be opened and the necrotic tumor enucleated, then for a time the cachexia usually decreases, the patient gains in weight and in the sense of well being. If a sarcoma grows beyond the absorptive or expulsive capacity of the organism no matter what the form of treatment, then timely surgical interference is desirable, just as it is in certain massive tertiary syphilitic lesions. The indications for surgical intervention are massive size, pressure symptoms, toxemia, cachexia, and severe local hemorrhages. Usually the preferred surgical measure is what we have desctibed as subcapsular enucleation. This is based upon the fact that, contrary to the prevalent opinion, sarcomas are not infiltrative, but are circumscribed and well encapsulated growths. Even with large growths local infiltrative anesthesia will often suffice. An incision is made down to the capsule of the tumor, and each capsule is in turn incised and its contents evacuated. Usually this may best be accomplished by the finger or hand passed close to the inner surface of the capsule, separating the soft tumor mass from its envelope. In this way from a few ounces to many pounds of tumor may be enucleated within a few minutes. The operation should be done rapidly, to limit the amount of hemorrhage, and violence in the manipulations should be avoided. The adjacent tissue planes should not be opened, and the incision through the overlying skin should

be merely large enough to permit access to the capsule of the tumor.

II. Topical applications.

After the subcapsular enucleation the capsules are wiped out with dry gauze and immediately painted by the following solution:

Pyoktanin	5 parts
Phenol	1 part
Alcohol	20 parts
Water to make	100 parts

Usually packing of the cavities by sterile gauze is desirable to limit the oozing. Iodoform and other substances that interfere with the action of the X-rays should be avoided. The profuse hemorrhages from a necrotic ulcerated sarcoma are best controlled by binding over the denuded surface cotton compresses wrung out of turpentine. Ordinary gauze compresses may fail to check the profure oozing.

For putrid decomposition in areas of moderate size local applications without subcapsular enucleation may suffice. If the area be small, the application of pure phenol followed by alcohol and then by the pyoktanin solution may be used this treatment being repeated daily until the odor is overcome. For larger masses of decomposing tumor more powerful agents are required; the fungus ulcer is cleansed and the cavity packed or thickly dusted with ethylate of sodium; or a compress wrung out of a 33 per cent solution of chloride of zinc is introduced into the cavity. After the larger masses of putrescent tissue are thus destroyed the application of carbolic acid, alcohol and pyoktanin may be resumed. In any case odorous decomposition should not be permitted to continue. For superficial necrosis applications of a 2 per cent solution of picric acid are often valuable in preventing putrescence. Instead of pyoktanin, methylene blue may be used. These anilin colors are not only antiseptic and deodorant, they have a storage capacity for fluorescence and so become especially valuable during the employment of the X-rays. Moreover, there is experimental evidence that such photodynamic substances have a powerful destructive action upon certain bacterial toxins and other poisons.

Roentgenism.

The most potent single agent known against sarcomatous growth is probably the X-ray. The X-rays have a destructive effect upon all living tissue-cells, but the action is especially pronounced against lymphoid and young connective tissue-cells. Thus, the type of embryonic connective tissue of which sarcoma is composed is especially vulnerable. The rays, moreover, increase the amount of fibro-connective tissue in the area treated and thereby tend to produce a denser encapsulation of the growth and to cause obliteration of adjacent lymphatic channels. There is no reason to believe that Roentgen treatment increases the tendency to metastases. The technique must vary with the patient and the character and depth of the tumor. In general, for the treatment of deep-seated tumors the anode should be about thirty centimeters from the skin; the time of exposure should average from twenty to fifty minutes, the application being divided between two different areas; the object being to have the rays during the course of treatment enter the tumor from every possible direction. Neglect of this point increases the jeopardy to the skin, and decreases the desired action upon the tumor. An old high vacuum tube will usually give the best results, except where a superficial lesion is present, when a lower and softer tube should be employed. In general the quality of rays measuring 6 to 8 upon the Benoist scale will give the best results. As to the amount of current, the measurement of that passing through the primary coil is of little value, but the amount passing through the tube as measured by milliamperemeter is important. Usually one ma. is employed, as it is found difficult to use a greater current and keep the vacuum uniform. In the protection of the skin, the variation in the direction of the rays, the distance of the tube from the skin, and the degree of vacuum as previously mentioned are all important. The use of the Pfahler filter, consisting of a diaphragm of sole leather interposed between the tube and the skin, has also been found to be of much value in protecting the skin. The treatment should be given daily for months, or until the irritation of the skin or the disappearance of the neoplasm suggests the desirability of less frequent exposures. After apparent cure the patient should not relinquish treatment, but should be treated once every two to eight weeks until several years have elapsed. At the outset the patient should be advised regarding the necessity for continued treatment, just as a patient with syphilis is advised; that is, that the lesions may largely disappear within a few months, but the tendency for recurrence may only be overcome by occasional treatments continued over several years.

Apparently those patients do best who show the greatest tolerance for the rays.

Constitutional Remedies.

As in tuberculosis, the patient should be placed upon a roborant dietetic and hygienic treatment. To increase the fluorescence of the blood during the X-ray treatment, 5 grains of quinine, 3 to 5 grains of fluorescein or 2 grains of

methylene blue may be administered from two to four hours preceding each application of the X-rays. If fluorescent substances are being used locally over denuded surfaces, the administration of similar substances by the mouth is unnecessary.

Serum And Toxin Treatment.

In those cases in which the administration of Coley's mixed toxins is followed by the disappearance of the tumor, the permanence of the cure, from the statistical evidence at hand, seems greater than after any other form of treatment. Unfortunately, the violent chills, the cephalalgia, the high fever, the weakening sweats, and the general exhaustion which follow the use of mixed toxins not infrequently are considered by the patient as unbearable, and he refuses to be further tortured. Not only is the treatment so distressing, but it is also usually unavailing, for even Coley estimates the treatment as only of value in about 10 to 15 per cent of the cases of sarcoma. Thus, not less than 85 per cent of the patients in whom it is used receive no benefit. We employ the mixed toxins, however, in those cases in which results are not obtained by the other mentioned measures. We have had a limited experience with Doyen's serum without clear evidence of its value, although in Case 1 it apparently checked recurrent and very violent attacks of erysipelas that followed the injection of mixed toxins (probably imperfectly sterilized). We have observed no permanent good effects from the use of trypsin or allied ferments.

The following is a report of the cases in which it was possible to carry out the treatment above outlined. In the much larger number of other patients upon whom this treatment was not employed, and in whom the sarcoma was not of the benign type, a fatal issue has been invariable.

Case 1. Sarcoma of testicle following traumatism incision. Recurrence. Castration. Recurrence in opposite lymphatic glands. Patient in good health after two and one-half years.

D. X., aged 32, an athletic man, weighing 220 pounds. His family and previous history are negative. In May, 1905, he was thrown against a car seat, contusing the right testicle. Within a week the organ had nearly doubled in size, but was free from pain or tenderness. Careful measurements showed a progressive and rapid increase in size. Three weeks after the injury an exploratory incision was made, with the diagnosis of hematoma. The blood was found to be in the tunica albuginea intermixed with grayish particles, apparently of broken down testicular substance. The situation of the hematoma suggested a diagnosis of sarcoma. A careful examination of a portion of the excised tunic, however, showed nothing more than a round-celled infiltration. The testicular substance was too diffluent for satisfactory examination. The wound was drained, it healed promptly; but several weeks later a progressive testicular enlargement was again noticed. About the middle of September, 1905, there was a large growth within the scrotum adherent to the skin, together with an enlargement of the cord and the inguinal lymphatic glands. The most thorough excision of the growth, scrotum, cord, lymphatic glands, and adjacent tissues was done. Within a month the left inguinal lymphatic glands and later the deeper glands become palpable. The left testicle remained uninvolved. The patient was given injections of Coley's fluid from which apparently he developed severe recurrent attacks of erysipelas. These attacks recurred weekly, were characterized by widespread erythema, chills, high temperature, by diminution in weight and prostration. Doyen's serum was then given and was followed apparently by diminution in the frequency and virulence of the attacks of erysipelas. The patient was referred to Dr. Pfahler November 11, 1905. At this time the scar on the right side was firm, red, and apparently free from recurrence. In the left groin were two masses, one an inch, and the other one and one-half inches in diameter. Within the pelvis behind the left Poupart's ligament there was a firm resistance suggesting deep glandular involvement, and there were severe increasing pains in the lumbar region that raised the suspicion of retroperitoneal invasion. Later the right groin became indurated. He was treated by daily exposures of from twenty to forty-five minutes by X-ray, excepting on Sunday. At the end of two months the treatments were given three times a week. The glands were distinctly smaller, there was some irritation of the skin, and the pubic hairs were beginning to fall out. At the end of the third month, from 64 treatments, the glands were much reduced in size, the patient was working daily, and there was a diminution in the cachexia. At the end of four months, after about 76 X-ray treatments, the tumors were barely palpable. After six months, about 100 treatments, the patient had gained markedly in weight, but there remained a diffuse induration in the groins. The patient took a course in X-ray therapy, bought a coil for personal use and moved from town, continuing his treatments. During the summer of 1906, after much hard manual labor, and neglect of X-ray treatment, there was an increasing enlargement in the right groin. This was later injected with methylene blue, but the enlargement persisted and finally opened and discharged. In April, 1907 under local anesthesia, an incision was made through the capsules in the infiltrated glands of the left groin, and a subcapsular enucleation of several ounces of broken down malignant tissue made. Repeated applications of

methylene blue were used and the X-ray treatment continued, under which there was a gradual disappearance of the infiltration. Later, from improper care the wound developed a putrid discharge, and vigorous antiseptic and cauterising agents, as previously described, were necessary. The patient, now over two and one-half years from the onset of the symptoms, has gained about thirty pounds in weight during treatment and is in excellent general health. Three other patients with sarcoma of the testicle have come under observation a short time before or since the above patient came under treatment. These patients had been treated by castration, but the local and X-ray treatment, as above outlined, was not applied Each of these patients died within six months after first coming under observation.

Case 2. Enormous recurrent sarcoma of scapula. Prolongation of life for five months under conservative treatment.

Mr. W. S., age 30, married. Previous history negative. In February, 1905, he noticed a mass the size of a hen's egg over the right scapula. On March 3, 1905, this was excised by Prof. X. In September, 1905, there was a recurrence the size of a hen's egg and a secondary growth in the axilla. September 23, 1905, both growths were excised. In February, 1906, there was a large recurrent growth, and an interscapular thoracic amputation of the arm was urged. The patient then passed from hospital to hospital, but refused amputation. The patient was first seen by Dr. Babcock, October 20 1906. At this time there was an enormous growth covering the right scapula, extending into the axilla anteriorly, involving the right subclavicular region. It was about one and one-half times the size of a man's head. He was given injections of Doyen's serum, trypsin and methylene blue. The growth progressively enlarged, an area of ulceration, at first the size of a dollar, increased in size, and profuse hemorrhages occurred which were controlled by compresses of turpentine. Intravenous injections of homologous blood were twice given. Great masses of necrotic tumor tissue loosened and were taken away. November 13, 1906, he was referred to Dr. Pfahler for a course of systematic X-ray treatment. He was treated six times a week for two months. To reduce the fetor, to aid in restraining the growth and to increase the fluorescence, applications and injections of strong solutions of methylene blue were employed, Despite these measures, although the growth became somewhat smaller, the area of ulceration and necrosis rapidly increased, the patient became progressively weaker, paler, and more cachectic. After two months of X-ray treatment the man's condition was such that it seemed evident that he would die within two or three weeks, not so much from the tumor itself, but from the sapremia which its necrosis had engendered. The patient was cautiously anesthetized January 12, 1907, and a hurried subcapsular enucleation done. The mass consisted of a great number of disintegrated tumor nodules, enclosed in firm fibrous capsules growing from the anterior and posterior surfaces of the scapula, in the axilla, and over the right anterior thoracic wall, nearly to the sternum. The capsules were split one by one, and the contents shelled out by the hand. The operation required about ten minutes, nearly eleven pounds of tumor being removed through a single opening in the back. Although little blood was lost, the patient was markedly shocked. At the end of three or four days he was able to leave his bed, and ten days after the operation was returned for X-ray treatment. The girth of the chest was reduced ten inches by the operation. He was again treated every week-day for seven weeks, after which he was given three treatments weekly. The wound which was kept continuously coated with methylene blue rapidly contracted and healed. Certain nodules in the axilla, which had been rather neglected during the X-ray treatment, enlarged and were later enucleated under local anesthesia. The patient gained about twenty pounds in weight, lost all cachexia, and had the appearance of good health. The local treatment was also somewhat neglected, and in June, 1907, certain nodules became fetid and necrotic and the patient so rapidly became toxemic that he was unable to go to the X-ray clinic after June 30th. Large doses of trypsin and Coley's fluid were given, hemorrhages occurred, signs of pulmonary involvement developed, and on July 11. 1907, after a third or fourth subcapsular enucleation, the patient died of shock and toxemia. In this case the man was made comfortable and his life prolonged for five months, but we were over-sanguine and reduced the local and X-ray treatment at too early a date. No erythema of note was produced by the rays.

Case 3 Recurrent sarcoma of the forearm. Excision. Rapid recurrence. Apparent cure under conservative treatment.

Mrs. E. P., aged 30, no children. Has never been robust Six years ago the patient had a curettement, ventral suspension and removal of small ovarian cyst which relieved her of dysmenorrhea. In 1901, a nodule appeared near the right elbow. Ointments were applied, but the mass progressively enlarged and finally it became painful. In October, 1905, the upper forearm had a circumference of 12 inches, and Dr. Y. extirpated the growth which was found to be a small round-celled sarcoma. In three months it recurred and was again removed by the same surgeon, and the surgeon himself gave 32 X-ray treatments, but recurrence took place while under treatment. The treatments were discontinued May 30, 1906, and amputa-

lation of the arm advised by a number of surgeons consulted. The patient was first seen by Dr. Babcock, October 15, 1906. There was a soft, fluctuating subcutaneous mass the size of an egg on the outer side of the right elbow, a second mass adjacent to the brachial artery and surrounding the median nerve just below on the anterior surface of the forearm. These tumors were enucleated without dividing the artery or nerve. The growth was chiefly from the fascial planes and periosteum of radius and had destroyed the upper portion of the external muscle group of the fore arm. Two weeks after the operation there were distinct signs of recurrence. The patient was referred to Dr. Pfahler, November 5, 1906. Methylene blue was used locally and the daily X-ray treatments of about twenty-five minutes duration given. In ten days there was a diminution in the pain and stiffness with some improvement in the induration. At the end of a month the induration had practically disappeared, but the wound remained unhealed. At the end of five months and 32 treatments the patient had regained a healthy color, had increased in weight and was apparently well. One treatment every one to three months is now used. The patient continues in apparent health fourteen months after operation. A second, almost contemporaneous case of sarcoma, adjacent to the elbow, treated by amputation, without X-rays, was characterized by generalization and death a few months later.

Case 4. Round-celled sarcoma of mandible. Imperfect enucleation. Apparent recovery under conservative treatment. Rapid recurrence after extraction of a tooth.

Miss L. G., aged 8 years. Previous history negative. First seen by Dr. Babcock, May 1, 1907. Patient was struck over left side of lower jaw three months ago. Four weeks later a nodule the size of a marble was noticed upon the external surface of the mandible near the ramus, which has grown rapidly and is now nearly the size of an egg. It is of rather firm consistency, is attached to the jaw and is free from pain or tenderness. Operation in May, 1907, the tumor being exposed and found attached to the periosteum, with perforation of the bone and communications with smaller masses in the medullary cavity. The medullary cavity was partially curetted, the tumor of soft tissues enucleated, the wound painted with methylene blue solution, and daily X-ray treatment started. The patient was apparently well seven months after the operation, but had neglected treatment. A tooth was then extracted from the area adjacent to the disease, and within a week a rapidly growing mass had reappeared. Treatment resumed.

Case 5. Melanotic sarcoma from skin of jaw. Enucleation. Conservative treatment. Apparent recovery.

Dr. H., aged 54. Crippled from previous rheumatic attacks, otherwise he has been well. In taking down a bedstead he hit himself a violent blow under the jaw, in March, 1905. One month later a lump was noticed in the situation of the left submaxillary gland. It was free from pain and tenderness and grew slowly until the summer of 1906, then the growth became more rapid. In May, 1907, the mass was the size of an orange, was covered by bluish veins, movable on the soft tissues beneath, and showed semi fluctuating soft areas. It is lobular and encapsulated. Enucleated in Dr. Bobcock's service by Dr. Steel, May 11, 1907. On section it is found to apparently spring from corium. The wound was painted with methylene blue, sutured, and X-ray treatment started. Apparently the patient is well seven months after operation.

Case 6. Recurrent multiple melanotic sarcomata of posterior surface of the leg.

Mrs. S. A., widow, aged 69. In August, 1903, the skin over the tendo-Achilles of the right leg was irritated by a shoe, and a lump the size of a hickory nut appeared, grew rapidly, ulcerated, and in 1904 was removed under local anesthesia. In 1906, the growth recurred and was injected with chemicals. Later, two other masses developed under the skin at a higher level and grew rapidly. The three growths, which proved to be melanotic sarcomas, were excised by Dr. Babcock under spinal anesthesia, March 3, 1907. The X-ray treatment began March 26th, the patient being in fair condition, although pale and rather weak, and with suspicious induration about the scar. Within a week two new nodules developed above the scar, but the induration and the new growths gradually disappeared under treatment. Methylene blue was administered internally. The patient's general health markedly improved, and nine months after the last operation the induration has almost entirely disappeared the patient appears well and receives X-ray treatment at intervals of several weeks.—SURGERY, GYNECOLOGY AND OBSTETRICS.

ARTERIO-VENOUS ANASTOMOSIS—ITS APPLICATION TO SURGERY.

BY GASTON TORRANCE, M. D.

Carrel has reported an instance in which anastomosis was made between the carotid artery and inferior thyroid vein in an animal with symmetrical parenchymatous goitre, which had pronounced general symptoms. Two weeks later the thyroid had decreased on the side operated upon, and seemed harder and more dense to the touch. The general symptoms improved steadily as the glands decreased in size. Six and a

half months after the operation the glands had decreased very much on both sides and had become much firmer. The unoperated side was still larger than normal. All general symptoms had disappeared, and except for the enlargement of the thyroid, the animal was perfectly normal. Microscopical examinations made from small sections of both glands showed the one operated upon to be much more normal in structure and containing far more colloidal material. Carrel suggests that as Bier's congestion theory has proven to be valuable in other conditions, we may find it useful in the treatment of diseased organs.

Carrel has also succeeded in getting union and restoration of function in the leg of a dog in which the nerves, bone muscles and vessels were united after the limb had been amputated for an hour and a half.

San Martiny Satrustegue, in 1902, did an anastomosis between the femoral artery and vein in two patients with gangrene of the leg. In one case, amputation was done at the same time, and there was no further spread of the gangrene. The other was a complete failure.

Later, Professor Jabouiay established a lateral anastomosis of the femoral artery and vein on a patient suffering from gangrene produced by endarteritis. It was not a success, and amputation became necessary.

Recently, Payr transplanted a piece of a mother's typroid into the spleen of her six year old child suffering from typical infantile myxœdema. The child had been given a thorough treatment with thyroid extract, lasting three and a half years, with no improvement. Within five months after the operation, the child had made great improvement, both mentally and physically. When the implantation was done the copious bleeding from the spleen was controlled by the action of the thyroid tissues.

Dr. Josiah C. Hubbard's Case. The patient a man eighty years of age, was admitted to the Boston City Hospital in April, 1906, with dry gangrene of the right middle toe and edema of the foot. There was a loud systolic murmur. Lips blue; radial arteries tortuous, and a markedly sclerotic condition of all the other arteries. No pulsation felt in the dorsalic pedis. Urine negative. The toe was kept dry, but the gangrene slowly progressed until the toe sluughed off and the other toes became involved.

About two weeks after admission, under ether, an arterio-venous anastomosis was done in Scarpa's triangle. The femoral artery was freed from its sheath for about two and a half inches, and was found to be very sclerotic. The vein was dissected up for a corresponding distance. A Crile clamp was applied to the proximal end of the artery, and a piece of rubber tubing to the distal. A similar clamp was used on the distal end of the vein, and a rubber tube on the proximal. The vein was divided at a higher level than the artery. Three mattress sutures with needles on both ends were passed through the proximal end of the artery from within out at equal distances apart. The artery was then invaginated into the distal end of the vein by passing the needles into the lumen of the vein for one-quarter of an inch, and then through to the outside, and tying them. The circumference of the vein was sutured to the artery by interrupted stitches, which did not include the whole thickness of the artery. Pagenstecher's celluloid thread No. 1 was used for all sutures. The clamp was removed from the proximal end of the artery and the rubber tubing from the distal portion of the vein There was no leakage at the suture line. The vein partially filled immediately and pulsated slightly.

By a similar process, the distal end of the artery and proximal end of the vein were united, but as the vein was divided at a higher level, there was some tension when the union was made. A small clot had formed in the artery and was wiped out before the anastomosis was done. While manipulating the artery, the tourniquet was pulled off and some blood was spilled, which was venous in character. When the clamp and tourniquet were finally removed, the vein became partially filled. The wound was closed in tiers and a dry dressing put on. A spica bandage was applied, holding the thigh flexed on the body. The patient was fastened to a Bradford frame, with pillows under the knees. There was no immediate change in the appearance of the leg. It seemed to be as warm as the other, and there was no edema. There was never any pulsation in the superficial veins. The wound healed by first intention. The gangrene extended back to the tarso-metatarsal joint, where a line of demarkation formed. The case was shown to the members of the American Medical Association. Hubbard thinks the gangrene would have extended more raipdly, and would have involved a greater area had the arterio-venous anastomosis not been done, and on this account claims that his operation was a success.

An amputation in the lower third of the leg was considered preferable to one through the foot, and this was done June 8th. No tourniquet was used. Both anterior and posterior tibials contained arterial blood and spurted with considerable force when divided. The veins did not appear to contain any arterial blood. The wound healed up slowly, and the patient was discharged August 6th. The author makes no attempt to explain the findings at the time of amputation.

Dr. Howard Lilienthal's Case. A man twenty years of age, a native of Russia, and a salesman by occupation, was admitted April 26th, 1906. His history was negative until his vascular trouble began several months prior to admission, with pain and burning in the calves of the legs, which gradually increased until walking became impossible.

Two months before admission, a painful ulcer developed on the left great toe, the pain extending to the other toes, and finally to the whole leg and thigh up to the groin. Another ulcer appeared on the heel, with dusky red patches on the front of the ankle. Physical examination negative. General condition quite good, in spite of a quite marked anemia. The ulcer of the toe was on the inner side of the distal phalanx, and was about the size of a thumb nail; edges slightly raised and partially undermined; the floor was covered with sloughing granulations, discharging a thin serous fluid. The ulcer on the heel was slightly larger, but of the same character, with its base black and gangrenous. The ulcers and their neighborhood were very painful and extremely tender to the touch. The left dorsalis pedis and popliteal vessels could not be felt. The right pulsated normally. The diagnosis of arterio-sclerotic gangrene was made, and treatment by mouth with glonoinin and iodide of potassium, and mercury by inunction was begun, hoping there might be a syphilitic element underlying it, of which there was no history. The disease continued to progress, the ulcers became larger, the foot dusky and the patches on the dorsum ulcerated. A few inflammatory glands could be felt in the groin. The patient's general condition became poor.

On June 2d, under gas and ether, an incision was made over the popliteal space with a view of making an anastomosis between the proximal end of the artery and the distal end of the vein, and ligating the other cut ends of the artery and vein. The artery was absolutely obliterated even as high as it could be traced through a seven inch incision, and the wound was closed and the operation abandoned. Four days later the operation was performed in Scarpa's triangle. It was found that the artery pulsated only in its uppermost part. The circulation was controlled by a tape ligature clamped around the external illiac artery. A permanent ligature was applied to the vein at this point, and a temporary one thrown around the distal end. The artery was severed one centimeter below and the vein the same distance above the point selected for anastomosis. The stumps of both vessels were emptied of residual blood and filled with steriled vaseline. The ends of the vessels were brought together by three "anchor" sutures equidistant apart, and left long, so that when put on the stretch the lumen of the vessels formed an equi-lateral triangle. A continuous suture was used and was tied at each angle of the triangle—the "anchor" sutures being used as retractors. The sutures passed through all coats of both vessels, bringing the intimas together and turning the seam outward. No. 12 milliner's needle and 000 silk were used, boiled in vaseline. Just before the last suture was tied the vessels were emptied of the vaseline by gentle manipulation. When this suture was tied the tapes were removed and the current established from artery to vein without any leakage. Pulsations were visible in the femoral vein and could, with difficulty, be felt in the external saphenous. No pulsation was noted in any of the veins of the foot, but the ulcers, which were markedly cyanotic, and did not bleed bright blood at the beginning of the operation, began to exude. In ten minutes the foot appeared to have recovered somewhat from the intense cyanosis incident to ligation of the femoral artery, but never approached the normal in color. The patient was very much shocked. The following morning there was a line of demarcation crossing the dorsum of the foot, and extending up, posteriorly, across the leg just below the middle of the calf. The patient died thirty-one hours after operation. No postmortem was allowed except the removal of the anastomosed portion of the vessels. There was a very soft clot in the vein, possibly formed just before death. No hemorrhage or bulging of the vessels at the point of suture.

Author's Case. On July 19th, 1906, the patient, a man forty years old, while working in a pipe foundary, had both legs crushed by two ten-inch core bars, weighing about nine hundred pounds each, falling on him. There was a simple fracture of the left leg and a compound fracture of the right ankle. When first examined, the injury of the ankle did not seem so serious, and I promised him I would not amputate the foot. When examined under ether, the bones of the ankle and lower end of the leg resembled ice when broken in a towel; the anterior tibial artery was found to be severed, and the tissues around the joint were so badly lacerated that it was questionable whether the posterior was intact or not. There was considerable shock, and it would have been almost impossible to detect any pulsation in either of the vessels. I found the long saphenous vein was cut also, and decided to unite the proximal end of the artery with the distal portion of the vein. Blood was flowing from both vessels, and I secured them temporarily with lightly tied silk ligatures until I could finish resecting the ankle. When ready to unite the vessels, I resected the vessels beyond the ligatures in order to get rid of the bruised portions of the vessels. Two small silk sutures were passed through the whole thickness of the artery on opposite

sides and then down into the lumen of the vein for about a quarter of an inch, and then cut through the wall of vein and, when drawn tight and tied, invaginated the artery into the vein. The end of the vein was sutured to the artery by a continuous silk suture. No clamps were needed to control the circulation on account of the weak condition of the heart's action. The blood was still flowing from both vessels when the artery was invaginated, but no distinct pulsation could be detected. There was no leakage after the circular suture was introduced. The wound was packed with gauze and the sutured vessel covered with flap of flesh which could be raised up for inspection of the vessel. The foot was put under a constant drip of carbolic acid solution—one-half per cent.—and kept warm with a hot water bag. The following day the foot was warm and natural in appearance; the circulation seemed as good as in the other foot. Motion and sensation normal. About half an inch of the vessel could be seen a short distance above the suture line, and slight pulsations could be felt; it seemed to be fully distended. The artery was intact on the eleventh day after the operation and bled some from the outer coats when sponged. No distinct pulsations could be felt but it seemed to be in a healthy condition and was thought to be carrying a small current of blood.

The walls of the artery were firm and tense, and a clot was in all probability forming, which, in the course of the next few days, completely filled the lumen of the vessel and caused it to slough, owing to its exposed condition. I did not attempt to examine it again for several days and when I did so I found only a sloughing cord, which I recognised as the vessel, but its condition was such that it was worthless as a specimen. I think the vein probably supplied blood to the foot for two weeks until a new collateral circulation was established, which grew stronger as the fibrin was thrown down in the vessel, constantly narrowing its lumen.

About four months later the bones showed a somewhat diseased condition, and the patient insisted upon having the foot amputated. Unfortunately, this was done while I was in Europe, and nothing was found out as to how the circulation of the foot was carried on.—THE VIRGINIA MEDICAL SEMI-MONTHLY.

THERAPEUTICAL RESULTS OBTAINED WITH NUCLEOGEN.

By Dr. P. SCHUTTE, MAGDEBURG.

Until lately, iron was regarded as the only blood-forming element. But the results obtained with it were in part of a very questionable character, because iron, in the combinations in which it occurred in the preparations employed in medical practice, was usually imperfectly absorbed by the system, and because its many harmful by-effects seriously detracted from its value as a blood-forming agent. These unfavourable experiences led to attempts to prepare iron for medicinal purposes in combinations which should be more easily supported by the stomach, digestable without preliminary processes of decomposition, and easy of assimilation. These endeavors resulted in a notable advance in the therapy of iron. The pioneer-work of Bunge*) and his followers on the absorption and assimilation of iron has been the chief factor in this advance, as it showed that none but organic iron-compounds could be absorbed and assimilated by the human organism.

The attempt was then made still further to increase the invigorating action of the organic iron-compounds by adding to them other important roborants, especially phosphorus which, like iron, is only valuable to the human body when administered in the form of an organic combination.

The problem now became how to discover a formula which would answer those requirements.

The needful combination was found in the nucleinic acids, discovered by Miescher,†) and afterwards more thoroughly investigated by Kossel and Schmiedeberg.‡) These acids contain over 9 p.c. of Phosphorus in organic combination, and capable of being absorbed and assimilated to a very great extent. Bunge, who prepared Nucleinate of iron, to which the name of "Haematogen" was given, was the first to employ this combination.

Recently Hugo Rosenberg's chemico-physiological laboratory in Berlin-Chalottenburg has succeeded in preparing and introducing into medicine a remedy named Nucleogen, which contains, besides the important elements Iron and Phosphorus, the not less important Arsenic. It thus unites in one preparation the three leading roborants and, moreover, combines them in comparative proportions in which their therapeutic efficacy far exceeds that of all other similar preparations in use at the present time.

The basis of Nucleogen, as of Haematogen, consist of nucleinic iron-salts, but whereas Haematogen only cotains 0.3 p.c. Fe and 5 p.c. P. Nucleogen besides organic com-

*) Lehrbuch der Physiologie des Menschen, 1901, vol. 2 p. 477.

†) Miescher, Hoppe Seiler's med. chem. Unters. 1871 Part IV.

‡) Kossel, Zeitschrift fur physiol. Chemie, 1886, Schmiedeberg, Archiv fur expert Pathologie und Pharmacologie, 1999.

bination, up to 15 p. c. Fe and about 9 p. c. P. By the adoption of new chemical processes it has been found possible to introduce up to 5 p. c. of arsenic into the nucleinic-acid molecule.

There can be no question that a preparation which thus combines the three leading roborants in such high proportions, and in their most absorbable and assimilable form; a preparation, moreover, which exerts no harmful by-effects of any kind, deserves to be widely employed in medicine.

Nucleogen may be given internally in the form of compressed tablets, the dose being: for adults: two tablets three times daily; for children: one tablet three times daily; or in the form of hypodermic injections when the dose is as follows:—

For adults: 1 phial every other day.

For children: ½ phial every third day.

Each tablet contains 0.05 Arsenic-iron nucleinate

Each phial „ 0.1 „ „ „ per 1 ccm.

A pathological condition of the blood, such as exists in all chronic and temporary debilities, particularly in anaemia and chlorosis, is chiefly characterised by a deficiency of red blood corpuscles, disturbing more or less the normal proportion of red and white cells, which is about 300 : 1.

The physiological action of iron upon the organism consists in increasing the proportion of red cells, that is to say, of that portion of the blood which, in its constituent haemoglobin,—the red colouring matter,—contains iron. Whenever the blood is deficient in iron, that is to say in the material which, together with albumen, forms its most important constituent, a deficiency in red blood-corpuscles will always follow.

On the other hand, these red corpuscles contain, in the form of oxy-haemoglobin, the oxygen compound which forms such an indispensable ingredient of the blood. Hence the absorption of oxygen into the organism depends upon the presence of the red ferruginous corpuscles. If these are only sparsely represented, it follows that only a proportionately insufficient quantity of oxygen can be taken up by the blood. Oxygen, again, is an important factor in the organism, inasmuch as upon it depends the degree of heat engendered in the body, and the regulation of the change of tissue. The greater the supply of oxygen to the blood, the more intense and vigorous will be the functions of the entire organism.

It follows that the nourishment, development and efficiency of all the organs, the maintenance of the general strength of the body, and its well-being, depend upon the degree of soundness of the blood. A healthy, normal blood is the essence and the strength of Life.

Now, nucleogen possesses, in a higher degree than any other preparation, the property of conveying to an imperfectly constituted blood all those substances, the lack of which cause it to be in an unwholesome condition. The blood-forming property of the extraordinarily high percentage of iron which Nucleogen contains in an easily absorbable and assimilable form is vigorously assisted by the richness of the preparation in organic phosphorus and arsenic.

The phosphorus, when hypodermically injected in the form of a nucleinate-solution causes, (according to Heile's recent investigations*) an appreciable increase in the number of white blood-corpuscles, which are then, owing to the influence of the iron, converted into red cells.

Moreover, when given in small doses, frequently repeated, phosphorus also exerts a favourable effect upon the processes of nutrition and bone-formation, which increases its value as a roborant. The part played by the arsenic consists principally in improving the nutritive functions generally and stimulating the blood-forming organs.

For these reasons the joint action of these three important roborants, so happily and meritoriously combined, capable of exerting the most valuable action upon the organism and devoid of all noxious subsidiary effects, must lead to results which exclude all doubt as to the therapeutic value of Nucleogen.

But Nucleogen is not only a blood-forming preparation, which, as shown by experiments, is capable of increasing the haemoglobin-content of the blood and the number of red corpuscles; it also renders excellent services as a nutrient and strengthening agent, inasmuch as, by producing a healthy and entirely normal blood it assists the processes of tissue-conversion and the entire organic nutrition, besides possessing fat-forming properties and supporting the formation and development of bone. To these advantages must be added those of stimulating the appetite and favouring the digestive process, thereby adding sensibly to the improvement of the general strength.

Nucleogen is therefore indicated in all conditions of debility and exhaustion caused by imperfect or disturbed nutrition, in poverty of the blood, anaemia, neurasthenia, affections of the lymphatic glands, tuberculosis, rickets, and in convalescence after exhausting disease, in debility after confinement, in infant feeding, after loss of blood and in similar conditions of diminished strength.

*) Heile, 24th Congress of the German Chirurgical Society, 1905 (Report of Sessions).

The experiment with Nucleogen which I have had occasion to carry out in my practice were not only of a pure clinical, but also of a physiological character.

Microscopical examinations and other tests of the blood of patients treated with Nucleogen showed me that, after several days' use of the remedy as prescribed, there was a marked increase in the haemoglobin-content, as well as a decided increase in the proportion of red blood corpuscles. Taking ten days as the normal period of comparison, I found that the haemoglobin content of various samples of blood showed from 8 to 12 p.c. increase, which continued during subsequent intervals of equal duration, in approximately the same proportion.

The number of red blood-corpuscles showed an increase of from 200000 to 640000 within 8 to 10 days.

In addition I found that the weight of the patients increased from about 3 to 6½ kilos in the space of four weeks, and this fact I attribute principally to the increased assimilation of nutriment caused by the stimulating action of Nucleogen upon the appetite and the digestion. As a matter of course the nourishment must be ample and suited to the conditions of each individual case, and must be combined with plenty of open-air exercise and careful dieting. I append particulars of some of my cases:—

1. Mrs. A., Wife of a merchant, age 20, had always been frail and weak. Acute anaemia. After her first confinement her strength diminished so greatly that, apart from being unable to feed her (also very weak) child at the breast, her own condition seemed precarious. Patient was extremely thin, pale almost to transparency, lips and mucous membranes pallid. No appetite. Heart acting feebly. Extreme debility. Weight 48 Kilos. Haemoglobin-content 42 p.c. Red blood-corpuscles 3 190 000.

I prescribed two nucleogen-tablets three times daily, a diet of strengthening, easily digested food, and open-air exercise so far as the patient's condition allowed. Already after ten days of this treatment (the Nucleogen being very readily supported), there was a marked change for the better. The general debility had diminished, the skin had assumed a healthier appearance; more important still, the appetite had improved, which made possible a better assimilation of food and appreciably helped the patient to regain strength. The haemoglobin content of the blood had increased from 42 p.c. to 51 p.c., the red blood-corpuscles to 3,580,000 and the weight by 2½ Kilos.

After three weeks' treatment I was able to withdraw from close personal supervision of the case, as the increase of strength and weight continued. Of course I recommended her to persist in the Nucleogen treatment, coupled with a careful diet of nourishing food. This, in view of the constant improvement in appetite, was carried out satisfactorily and sensibly assisted the action of the remedy. The patient is now a healthy, vigorous woman, out of all comparison to her former self.

2. W. S, unmarried woman, age 19. Actress. A very tall, overgrown subject, extremely thin and hyper-chlorotic. She came to me for treatment just when I was beginning my experiments with Nucleogen-tablets. Although no organic defect was apparent, I diagnosed acute debility and deficient nutrition of the separate organs, the symptoms being pallor of complexion and of the visible mucous membrane, feeble, action of the heart, pulse slow and feeble, inclination to fainting and giddines, want of appetite, indigestion, irregularity of the menses and general depression. The exigencies of the patient's provision probably had their share in bringing about this condition. Examination of the blood showed: haemoglobin-content 40 p.c., red blood-corpuscles about 3,000,000. The patient's weight was 53 Kilos. I prescribed two Nucleogen-tablets three times daily, together with the general treatment proper to such cases. After about a fortnight's treatment the action of the Nucleogen became visible in the improved appearance of the patient, who also declared that she felt better and stronger. The appetite had also improved. The haemaglobin-content was now 54 p.c., red blood corpuscles 3,560,000, weight 56 Kilos. Another fortnight but a marked improvement. The patient had grown fuller in the face, her complexion was fresher, and her general health and strength had increased considerably. After the results obtained in the course of these four weeks it is probable that, with continued use of Nucleogen, there will be a further improvement.

3 Mrs. S.—Patient suffered from acute neurasthenia, the symptoms of which were irritability, frequent headaches, sleeplessness, depression of spirits, ill-temper, neuralgic troubles of all kinds and general weakness. She had no appetite, and distaste for food, and was suffering from impeded digestion. As a result of malnutrition the condition of the blood was very defective, the haemaglobin-content being only 44 p.c., red blood-corpuscles 3,300,000. Weight 58 Kilos

I immediately recognised that in this case no narcotic nerve-remedies, but only roborants were indicated and ordered to Neucleogen-tablets three times daily, a hot bath at night, a light but strengthening diet and plenty of open-air exercise.

After eight days of this treatment the patient returned and stated that she was less troubled with her nerves, felt calmer,

was much better in general health, slept well, and had a better appetite. I was especially pleased with the last symptom named. The patient's appearance had improved considerably she was animated and cheerful and I urged her to continue the Nucleogen-treatment. After a treatment extending over three weeks, under observance of the rules laid down, the improvement was so marked that the patient declared that she had no longer any trace of her former ailment; she felt thoroughly restored in strength, slept well, and enjoyed a good appetite and digestion. Her appearance corroborated these assertions. The weight was now 61½ Kilos and the improved condition of the blood was evident from the fresh appearance of the skin.

4. W. G. of O.—A child of 5½ years, daughter of a tinman. A weak, scrofulous subject, suffering from suppurating abscesses in both ears. I diagnosed at either side of the neck a pronounced swelling and enlargement of the lymphatic glands several of which were inflamed and had to be lanced. For the purpose of improving the general health I had recourse to Nucleogen in this case also, prescribing one tablet three times daily with suitable nourishment and every other morning a warm salt-bath. The abscesses in the ears I treated locally.

After only ten days there was an appreciable reduction of the affected lymphatic glands. The general appearance and strength of the patient had considerably improved, and so had the appetite, a more liberal diet thus being rendered possible. The improved general condition, which became accentuated as the weeks went on, also exerted an extremely favourable influence upon the course of the aural affection, which could be regarded as cured after four weeks' treatment. The swelling of the lymphatic glands showed a remarkable subsidence and I feel convinced that a continued use of Nucleogen will have further favourable results.

5. S. of. O.——Merchant, aged 38, came to me to be treated for asthma. I diagnosed pulmonary phthisis as the cause of the trouble, and this was confirmed by the general indications. Increased secretion at the apex on both sides of the lungs. The patient was greatly wasted, partly as a result of an irritating dry cough and the frequent asthmatic attacks connected therewith, which often caused him to have sleepless nights, and partly owing to want of appetite. He complained of extreme lassitude. An examination of the blood showed 62,5 p. c. hæmoglobin, and 3 400 000 red blood corpuscles. After a course of treatment extending over four weeks, and applied in part symptomatically and in part as general treatment, supported by the regular use of Nucleogen, the general condition of the patient showed a substantial improvement, his appetite had improved, the cough and the asthma had as good as disappeared and the condition of the lungs was almost normal. The patient had gained 5½ Kilos in weight, while the hæmoglobin-content had increased by 21 p. c. and the red blood-corpuscles to 4 760 000.

6. H. of M.——Teacher, 35 years of age. This patient came to me suffering from chronic catarrh of the trachea. It was at once apparent that the patient was suffering from acute nervous debility induced by mental overexertion. The pallor and emaciation of the face and the condition of the visible mucous membranes pointed, moreover, to a diseased condition of the blood. The latter was very thin, the hæmoglobin-content being only 45 p. c., and the red blood-corpuscles 3 050 000. Weight 61 Kilos. Lungs and heart normal, appetite defective. In addition to local treatment of the trachea I had recourse to general treatment, prescribing, in addition to a suitable strengthening diet, moderation of mental activity and much open-air exercise. I prescribed two Nucleogen tablets three times daily.

Concurrently with the improvement of the trouble of the trachea the patient's general condition underwent a visible amelioration. After a week of the treatment he felt stronger and mentally less oppressed, the appetite had improved, he again began to sleep soundly and this appearance had a healthier tone.

After another two weeks the patient had all the appearance of a healthy subject, and of his former nervousness scarcely a trace remained. His weight had increased by 3½ Kilos, the hæmoglobin content of the blood by 16 p. c. and the red blood-corpuscles to about 4,000 000. He is now again able to follow his profession without exertion.

7. Gustav G.——Metal worker, 21 years. This patient came to me to be treated for frequent bleeding from the nose, caused by a growth in that organ. The bleedings had reduced him to a state of acute anæmia and general debility. I first of all removed the cause of the hæmorrhage by a caustic and prescribed the greatest possible care in the exercise of his calling, a strengthening diet and two Nucleogen-tablets three times daily.

At the commencement of the treatment the hæmoglobin-content of the blood was as low as 38 p. c., the red blood corpuscles 2,740,000. After a fortnight of the treatment the previously pale and emaciated appearance of the patient had been changed greatly for the better, the complexion had regained its freshness, the cheeks were fuller and the strength had appreciably improved. The appetite and the general condition of health were good. The patient has not

returned since, which shows that he is feeling well and no longer in want of medical advice.

8. Mrs. S.—of S.—age 36, wife of a manufacturer. Patient, a highly neurasthenic subject, suffering acutely from poverty of the blood, came to me for treatment for a frontal abscess. She was extraordinarily excited, complained of acute pain in the forehead, sleeplessness, want of appetite, neuralgic troubles in all the limbs, and extreme weakness. The primary cause of the trouble was removed by an operation which necessitated several weeks of hospital-treatment.

In addition to the usual rest in bed, a warm bath was given daily to calm the nerves; a strictly regulated but strengthening diet and two Nucleogen-tablets three times a day were also given. The patient's condition improved hand over hand. As the pain in the forehead left off she became calmer, a beneficent sleep returned, the appetite became better, and the patient's spirits rose. In the course of three weeks' treatment the wound in the head had healed and the patient was dismissed from the hospital in an exceedingly satisfactorily condition, with the recommendation to continue the use of Nucleogen. At the moment of writing she is in Wiesbaden to recuperate and she informed me recently that her strength and her general state of health now leave nothing to be desired.

9. I. A.—An infant of seven months, which had been brought up by hand since its birth, suffered from obstinate gastric and intestinal catarrh, with vomiting and acute abdominal pains. The child was extremely thin and weak and famished almost to a skeleton. I began by prescribing calomel 002, saccharalb. 0.3 divided in 8 powders, one to be given every two hours, hot, damp fomentations on the abdomen and starch enemata. For the milk on which it had been fed I substituted decoction of barley with a teaspoonful of claret and a little sugar of milk, every half hour a small quantity. On account of the extreme debility of the child I resolved to try Nucleogen-tablets. I gave half a tablet daily, powdered and mixed in a teaspoonful of sugar-water. The child appeared to like the preparation and supported it well, at any rate it was not returned,—in fact, since the food was given more frequently and in smaller quantities, it was properly retained by the stomach and well digested. In the course of a few days the child began to show a ravenous appetite, as though it wished to make good the loss it had previously suffered. I now stopped the claret and added to the barley-water, first, well boiled cow's milk: one part of milk to two parts of barley-water, afterwards increasing the proportion of milk to one half, while continuing the Nucleogen-treatment. The child improved in strength day by day, the bowels were regular and normal, the bluish and faded skin became rosy and the weight increased remarkably: nearly 1½ Kilos in 14 days. The treatment is being continued and the patient is now thriving.

10. Mrs. B.—a married woman of the working class, came under my treatment for inflammatory swelling of the right sub-maxillary-glands. She had been treated previously for a fortnight by another practitioner, who had applied iodine-painting and plasters. All this time she had suffered excruciating pain, which had nightly kept her from sleeping, and on account of the inflammatory tension she was almost unable to open her mouth, and could take scarcely any food. All these troubles had naturally affected her greatly, both physically and mentally.

I commenced by making a deep incision in the wound and the resulting copious discharge of about two cup-fuls of yellowish-green pus brought almost immediate alleviation. The wound itself was treated surgically in the usual way.

An examination of the blood showed an undue preponderance of white blood-corpuscles and a haemoglobin-content of 37·5 p. c., otherwise there was no organic defect.

I prescribed two Nucleogen tablets three times daily, and in the course of a few days a decided improvement had taken place. The pain and the tension were less, enabling the patient slightly to open her mouth again, the appetite returned and the general strength increased. The healing of the glandular abscess passed off extremely satisfactorily and was completed within 17 days.

In the meantime the patient has grown stronger she sleeps and eats well, her pale complexion has changed and assumed a fresh colour and she feels in excellent general health. Such glandular swellings as still exist are being reduced from day to day and it may be expected that in the course of a few weeks they will have left no trace. I again examined the blood and found that in the course of three weeks it had considerably increased in red corpuscles, while the haemoglobin content had risen to 54 p. c.

11. Mrs. B.—Aged 28 years, wife of an official at Z— came to consult me on account of trouble in the throat. I diagnosed chronic catarrh of the trachea, accompanied by a remarkable pallor of the mucous membranes of the mouth and throat. These were accompanied by a considerable enlargement of the thyroid gland (which had swollen almost to the size observed in goitre), and by oedema of the lymphatic glands of the right jaw. In addition to the other trouble the patient complained of pressure, irritation and dryness in the throat, as well as of want of appetite, lassitude, disturbed sleep

and frequent headaches. The heart and lungs were sound, but the pulse was weak.

Besides local treatment of the trachea, I prescribed a careful diet of strengthening food, plenty of exercise in the open air and, as a roborant, two Nucleogen tablets three times daily. Moreover, I applied iodine-ointment (0.3: 20) to the swollen glands.

Eight days later the patient returned, feeling decidedly better and stronger. The swelling of the glands was already beginning to subside and the colour of the visible mucous membranes had improved. The appetite had improved, so that a more plentiful diet could be prescribed, and the patient slept more soundly. The condition of the throat also showed an improvment, I was unable to examine the blood, as the patient refused to allow bleeding. After a further period of eight days there was a further notable increase in strengh and in the general condition of health, and, I was able to determine a marked decrease in the swollen glands. Eight days later again the lymphatic glands had become normal, but the oedema of the thyroid gland still persisted, although undeniably reduced in size. A continuation of the Nucleogen treatment must show whether in this particular direction also a favourable result can be achieved.

12. Emma R —, aged 2 years, a child of the working-class a badly-nourished, rickety subject, was brought to me to be treated for stoppage of the nasal passage. The child kept its mouth open waking and sleeping, snored heavily, slept badly, and had a very poor appetite, so that its condition of pronounced debility and wretched appearance were by no means astonishing.

An examination revealed adenoid growths at the juncture of the nose and throat. These I removed by scraping and caustics, but the principal problem in this case was to improve the patient's general state of health, and to remove the causes of malnutrition. Here also I determined to have recourse to Nucleogen, of which I gave one tablet three times daily.

The removal of the adenoids was succeeded by a quiet, restful sleep, which materially contributed to the success of the treatment. In the course of a few days the effect of the Nucleogen became apparent in the improved appearance of the increase of appetite and vivacity. After two weeks the body began to fill out, the previously pale mucous membranes became healthy and rosy, and the strength improved materially. One week later the general condition of the patient had become so satisfactory that I was able to dismiss the case with a recommendation that my treatment be continued.

13. Gertrude P., age 6 years, daughter of a book keeper. This patient, likewise a weak and badly-nourished subject, had been under my care for a fortnight in July of last year for measles, on which occasion I had also operated for adenoids. At the end of last month the father brought the child back, saying that it showed no growth or development and that attendance at school had only made matters worse. It should be noted that the child's mother had died of pulmonary phthisis. The child itself had also lately developed a troublesome cough, and an examination of the lungs pointed to the existence of catarrh at the apex of both lungs.

I immediately perceived that the only possible basis on which a cure could be effected was by the improvement and strengthening of the general condition of the patient, and in the attainment of this object I found Nucleogen very useful. I prescribed one tablet three times daily, together with nourishing and easily digested food, especially milk, and the wearing of a woollen shirt next to the skin. I also ordered the father to let the child run out of doors all day long. As I expected, after a fortnight of this treatment, a remarkable improvement had declared itself. The strength of the child had noticeably increased, its external appearance was satisfactory, the appetite fully normal and the sleep sound. The cough had abated. At the end of the third week I was able to establish further improvement, the patient, under the influence of the treatment, progressed day by day and I am convinced that if the treatment is continued for several weeks longer, the cure will be complete.

14. P., aged 43 years, book-keeper, father of the subject of the preceeding record, has been under treatment for several months for chronic suppuration of both ears. Partly as a result of this troublesome affection partly on account of repeated misfortunes: the death of his wife, losses and adversities, in business the cares of existence, etc., the patient had been almost wrecked in body and mind. The pale, hollow cheeks, the lustreless eyes and the general air of debility spoke of sleepless nights and imperfect and insufficient nutrition. There were no ascertainable organic defects. The haemoglobin-content of the blood was only 30 p. c., the red blood corpuscles 2 500 000, the weight of the body 56 Kilos. In this case also, in addition to a more liberal diet, I gave two Nucleogen tablets three times daily, and through my intermediary the patient was given a plentiful and nourishing dinner daily at a charitable institution, with the result that the action of the Nucleogen was thereby materially supported. Eight days after the commencement of the treatment the patient's appearance had become healthier and more animated; he felt stronger and better able to work. Appetite and sleep good,

Two weeks later a really remarkable improvement in the general state of health had become manifest, the hæmoglobin-content having risen to 57 p. c., the red blood corpuscles to 3 600,000, and the weight by 4½ Kilos. I have no doubt that the continuation of the Nucleogen treatment for a few more weeks, coupled with the present favourable conditions of nourishment, will assuredly assist further in restoring to the patient his lost vigour.

15. Otto T., age 22, clerk. The patient had suffered serious loss of blood as a result of a gunshot wound which he had inflicted upon himself through carelessness. In consequence he had become extremely delibitated and anæmic. Added to this, the nature of his wound was such that, while ill in bed, he had been able to take but little nourishment, which had pulled him down still further. When it was certain that the wound would heal I prescribed a suitable strengthening diet, together with two Nucleogen tablets three times daily.

Before the commencement of the Nucleogen treatment the blood showed a hæmoglobin content of 39 p. c. and 2 800,000 red blood corpuscles; after a fortnight's regular use of the preparation the figures had risen to 54 p. c. and 3,700,000 respectively. The general state of health was also much improved and the colour of the patient's face was healthier. His weight had increased 2½ Kilos. Since that time I have not seen the patient again, although he had promised to present himself again. I therefore conclude that he is feeling so well that he thinks it unnecessary to trouble the medical man further.

The detailed cases recorded above indicate that Nucleogen undoubtedly possesses roborant and tonic properties of so high an order that no other similar preparations with which I am acquainted can even approximately compare with it. Nor is this to be expected, seeing that there exists no other therapeutic agent in which the three leading roborants: iron, phosphorus and arsenic, are united in such high proportions, and in the form of a compound so easily and completely assimilable. I can therefore warmly recommend Nucleogen to the medical practitioner as a valuable therapeutic aid in all cases of affections analogous to those described above.—ROSENBERG'S QUARTERLY REPORT.

A Mirror of Practice.

THE TREATMENT OF GONORRHŒA.

The Scottish Medical and Surgical Journal for May contains a useful paper on the treatment of gonorrhœa by irrigation, from the pen of Dr. J. S. Purdy, who has made some interesting experiments in order to demonstrate that ordinary urethral injections do not penetrate beyond the membranous urethra. With a 4-drachm glass syringe he injected into the urethra of a cadaver a solution of methylene blue. He found that staining occurred as far as the termination of the membranous portion but no further. On using the douche tin an elevation of 2½ ft, was sufficient to stain the prostatic urethra and of 3 ft. for intravesical irrigation. On the living subject an elevation of not less than 5½ ft. was necessary to reach the bladder without a catheter. For intravesical irrigation it is better to use a catheter. Although the resistance may be overcome by using a column of water sufficiently high, it is not always advisable to do so, especially in nervous patients. Dr. Purdy has previously published his experience in the treatment of gonorrhœa with the new organic compound of silver, protargol, at the London Lock Hospital. This body has the advantage of being non-irritating even in strong solutions. After first washing out the urethra, he injects four times daily a 5 per cent. solution, which the patient holds in the urethra for at least five minutes. In from four to ten days all obvious discharge ceases. On the cessation of the discharge he uses a weak astringent injection, a solution of sulphate of zinc, one grain to the ounce, which is held in the urethra for half a minute. In some cases cure is completed within fourteen days. In posterior urethritis Dr. Purdy has obtained good results from deep instillations of silver nitrate, and in some obstinate cases finds this method necessary, but he considers that no method gives such uniformly satisfactory results as urethral and intravesical irrigation. He uses a double-channel nozzle made of celluloid or metal, consisting of two tubes concentrically arranged so as to allow the fluid to flow through the inner and to return by the outer. An ordinary burette clip serves to control the stream. Dr. Purdy's experience of the urethroscope is not fortunate. In some cases the disease was even aggravated by its use. Much practice and skilful manipulation are required in order to use this instrument with benefit.

TREATMENT OF EPIDIDYMITIS.

Dr. E. Guignes employed jothion with excellent results in simple orchi-epididymitis. After a few applications the tenders

ness of the testis was considerably lessened and the swelling subsided, so that it was often difficult to recognise which had been the affected side. In bilateral orchi-epididymitis the pain disappeared after the third application. In periorchitis remarkable results were obtained, and in one of the cases a complete cure occurred after fifteen days. In a case of orchi-epididymitis associated with extremely painful funiculitis a cure resulted in thirteen days, though various other methods of treatment had been unsuccessful,

The author concludes that jothion is an excellent analgesic remedy in the treatment of gonorrhœal orchi-epididymitis, the inflammation subsiding promptly. Besides, jothion has the advantage that, notwithstanding its great efficiency, it causes no symptoms of iodism.

Annotations.

HELPFUL HINTS

Healthy children have healthy tastes, and invariably are fond of vegetables and fruit. The craving for meat which affects some children is morbid and unnatural, and entirely an artificial craving super-induced by improper feeding.

Small children need no meat whatever. Their dietary should consist of milk, cereals, fruit, and vegetables. Eggs are good for children, but should not be fried for them, but simply boiled or poached, or eaten in the form of custards.

Children should very early be taught to reject the skins, seeds, and piths of fruit, as they are exceedingly indigestible and dangerous. The seeds of lemons and oranges are specially to be avoided, as they have sharp ends which might easily perforate the stomach or the intestines.

The skin of an apple or a pear is very harmful, and has been known, when eaten, to bring on acute gastritis which resulted fatally. The skins of fruit are meant for the protection of fruit, and should no more be eaten than the shell surrounding the Kernel of a nut.

HOME NURSING

One of the most important actions in home nursing is to know when to draw out inflammation from a wound, an eruption, or from a poisoned wound. Poultice is the simplest means for this end, and is made by soaking over the fire for five minutes, about two ounces of stale bread crumbs and a cupful of boiling water. Spread this mixture evenly over a thick piece of rag, and cover with a very sheer piece, which is to lie facing the wound.

Moist heat has almost a magical effect on pain. Dry heat is the next best thing for pain results from inflammation, and the application of heat to the spot acts as a "counter irritant," and extracts the pain. The most excruciating pain will often succumb to a continued laying on of hot flannel, when all drugs have failed.

Vineger has many uses in the medicinal line. It is of great value in case of headache, when a cloth soaked in vinegar, and bound tightly on the head will nearly always effect a cure. For tired feet, nothing is better than a bath in tepid water containing a cupful of vinegar. Do not soak the feet too long, it makes them tender.

During these days of natural languor, pain under the shoulders, nervous twitching of the eyelids, and general lassitude, are often attributed to a hopelessly bad state of the liver. In most cases the trouble is nearly constipation, and needs only a fruit and vegetable diet, instead of medicine, for a cure.

Half the bodily ills from which we suffer are the result of exhausted nerve cells. They can be restored by plenty of nourishing food and systematic rest. People too often make a mistake in practising a meagre diet at the very time when the body requires extra nourishment.

WORRY AND FRET.

Men worry and women fret. A fretting man is unusual, and a woman who wears herself out with worry unaccompanied with fretting is not common. Both are manifestations of a common failing, however, and fretting is only worse so far as it compels others to share the victims unhappiness. It is a trite saying that fret and worry kill more people than hard work, and very many men and women, realising the truth of this, have gone successfully to work to conquer the miserable habit. It is harder to do this where the tendency is inherited, but it can be done, and where it is an acquired habit the task is easy for a determined spirit.

GIRLISH FAILINGS.

Both young men and maidens when they first begin to conjecture about their future partner in life fix upon some ideal that is scarcely human. They forget that a faultless man or woman is not to be met with. And indeed, they would be weird companions for most folk. Fortunately faults can be got rid of, and everyone has the power of reaching up towards that ideal that their lover pictures in his mind. Many a girl puts on little faults when she would strive to make herself attractive in men's eyes, and it needs only a little commonsense to free her from those brambles and let her own natural attractions have full play. Affectation of speech or manner is a silly little failing that makes many an otherwise charming girl look ridiculous. The girl who carries her endeavors to smarten herself up too far and looks overdressed quite spoils her appearance and the attractiveness of her dress. No one realises these things or sees through them so quickly as does a man, and no one has less patients with these little girlish failings.

In Pulmonary Consumption.

Dr John's CONSUMPTION IHALATION. The Faculty pronounce it the only Cure for Consumption and alf Throat and Lung Troubles.

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Dr. T. Foster, A.M., M.D., says :—says I can recommend it with every confidence. It is the very best treatment; simple and effective. Dr. L. Paul, M.D., says : It never failed to cure almost every case. Relief was certain.

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The Indian Lancet.

CALCUTTA : MONDAY APRIL 20th, 1908.

NOTICE.

There will be no more issues of the "Indian Lancet" after the 27th April 1908

THE HEALING ART AND THIS AGE.

The universal ardent desire is to be, and remain, free from ailments of any description whatever. This has been in the human mind unmistakably paramount, since the dawn of creation—In the roll of years—nay even of centuries this has in no measure been even partly fulfilled. Diseases have gone on multiplying; epidemics have become more frequent and the general individual health is getting from bad to worse; in short day by day we are as a nation becoming weakened and physically degenerated. The overwhelming majority of maladies the human flesh is heir to, are preventable. The bulk of these are psychoses, resulting from aberrations of the conscious state or as has been rightly styled, the perturbations of the mind on the nervous system. Long practised evil habits, and persistent vitiations slowly but surely in the long run are the causes of many an ailment. In this age of "hurry," and material push, it is difficult to come across a normal mind one equipped with powers of judgment. The ultimate root-causes of this nerve instability are to be sought, in the hereditary history first and also in the strain and high pressure that the brain and nervous system is subjected to, now-a-days in the struggle for existence, and the onward march of so-called Western Civilization and "high life." Deteriorating impressions suppressions of normal human impulses, irritations and worries of varied grades and kinds undoubtedly have a powerful destructive effect on the human constitution as a whole, but particularly this uncongenial influence is manifested in the nervous and vascular system, which suffer most as a result and may be permanently crippled in the discharge of their functions. The exact nature of these nerve shocks will be more clear, with the advance of physio-chemistry.

It is very dangerous and quite fallacious to take it for granted that the so-called lesser infectious diseases are inocuous and inevitable.

There is in this way produced on the race a comparative immunity, but at the gravest risk and expense to the individual.

All these can and in the near future will be prevented and the old maxim, "prevention is better than cure," be fully realised in practice. The daily increase and in many cases success of the so-called metaphysical healers ("faith-curers, Christian Scientists," &c.) is without a shade of doubt due to the fundamental fact that the vast majority of bodily ailments are mere perturbations of the psyche or mind. We must recognise scientifically and carry out psychology applied in particular cases in practice. It is only then that we would be able to keep ahead of these "shrewd irregulars" who trespass and intrude in the precints of our territories.

Their success means our disgrace and reproach. Let us be not behind the time in any way but keep abreast of treatment by drugs, pharmacopeal or outside the pale of official list; European or Foreign and by means of Suggestive Therapeutics which along with Organotherapy and Electricity are coming so much to the forefront to-day.

Typhoid fever has been markedly on the increase in many large Indian towns and even in the Metropolis and its suburbs. In this connection it may be noted that the statistics kept by the different Health Offices in India are most unreliable, as very many cases of enteric fever are reported as "Remittent fever" &c and are not correctly diagnosed. The mortality of Enteric fever out here is not very high—10 per cent being the average. Europeans are more susceptible to this disease than

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Acts as an intestinal antiseptic, as well as a purgative, eliminating germs and preventing auto-infection (ptomaine poisoning). This action is solely due to sodium sulphite contained as a fixed compound in the water.

Is acceptable to nearly all patients, as it never produces nausea, weakness nor thirst. In its use purgation is not followed by constipation, as is unfortunately and commonly the case with other purgative waters.

Does not weaken; it produces a tonic effect, stimulating the whole system; appetite is increased, sallowness and foulness of the breath disappear, headaches and vertigo vanish.

Is the only purgative water the use of which is unaccompanied with disadvantages in genito-urinary diseases.

Relieves women suffering with hemorrhoids and diseases of the uterus and ovaries, by reducing the congestion of the pelvic viscera.

Re-establishes the normal flow of bile, and is thereby a prophylactic in cases of biliary colic, due to the passage of biliary calculi.

Is indicated in cases of flatulency, bilious attacks, eczema, glandular enlargements and scrofula.

Benefits chronic nervous conditions, atony of the stomach and intestines, certain forms of diseases of the heart and circulatory system, chronic cases of skin affections and certain diseases of the lungs.

If used regularly alone, will often suffice in cases of influenza, diarrhœa, malaria, gastric and febrile disorders and infectious diseases by enabling the engorged, digestive, circulatory and lymphatic systems to regain their normal condition.

Acts in trifling doses. One small wineglass taken on an empty stomach immediately before breakfast produces a well-marked laxative effect in an adult. The dose for women or children should be reduced to one-half or one-third.

Is now considered an indispensable mineral water, especially in large city practices where it is important to husband the patient's strength, under penalty of their developing anæmia, or breaking down under the nervous strain and becoming neurasthenics.

Is cheapest because best. It is now prescribed by the leading physicians and stocked by all first-class retail druggists.

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Indians. Defective drainage and deficient filtered water supply are the two most potent causal factors in this malady. Typhoid and cholera are very easily preventible diseases and improved Sanitation is the keynote to their eradication. We hope the Municipal Board of the Indian cities would take this warning and try their level best to introduce a continuous pure supply of (filtered) drinking water and to keep the drainage system always scrupulously clean.

Current Medical News.

PUBLIC HEALTH IN INDIA.

The report of the Sanitary Commissioner with the Government of India for the past official year shows a considerable increase in the number of deaths attributed to cholera, small-pox, fevers, dysentery and diarrhœa, but that the number of deaths recorded as due to plague was only about one-third of the number recorded in the previous year and that from all causes taken together there were recorded in British territory 265,441 fewer deaths than in 1905. The year's plague total, 356,721, was the smallest since 1901. The most striking fact the epidemiology of plague, writes the Commissioner, is its apparent dependence upon climatic variations; its disappearance when the temperature becomes very high and its reappearance when the temperature falls. How does the bacillus maintain an existence during the non-epidemic season and what are the factors which influence the seasonal prevalence of the epidemic? We have seen, he adds that the life of the bacillus in the soil is comparatively short and that plague in man is dependent upon plague in the rat. There is no reason to suppose that man harbours the bacillus after recovery from an attack of plague and although chronic plague does occur among rats, the development of acute plague from a chronically infected rat appears to be hardly possible. The only obvious way, then, in which the disease could be maintained during the non-epidemic season is by the occurrence of a chain of cases of acute plague among rats. In the cities of Calcutta and Bombay plague occurs among human beings throughout the year and from different areas in all the widely-infected provinces deaths from plague are reported in every month of the year. If human cases derive their infection from rats, it follows that acute plague in rats must occur throughout the non-epidemic season, although the cases may not be numerous. The Commissioner's conclusion is that in the present condition of knowledge it must be accepted that bubonic plague is spread by infected rats, the vehicle of contagion between rat and rat and rat and man being the rat-flea; and that the life of the bacillus outside the bodies of animals and certain insects is of comparatively short duration. Pneumonic plague is directly infectious from man to man by inhalation, but this form of the disease is rare and plays but a small part in the general spread of the epidemic.

Of fevers we are told that 4,452,842 deaths occurred in the year. As a rule the number of deaths recorded as due to fever does not vary greatly from year to year, but during the ten years ending with 1906 there were registered in all 43,641,844 deaths under this heading as compared with 40,221,432 during the ten years ending with 1896. In the year under review 56 per cent. of the deaths from all causes were registered under this heading and, as usual, there were many towns and villages, especially in Bengal, Eastern Bengal and Assam and the Punjab, in which over eighty per cent. of all the deaths that occurred were so recorded. The death-rate from all other causes than fever was only fifteen per thousand of the population. When reference is made to fever in India, malarial fever is generally understood, but, observes the Commissioner, it is obvious from the figures just given that many causes of death and many diseases much more fatal than malarial fever are included under the heading. At present it is not possible to ascertain with any degree of accuracy what proportion of the deaths recorded under "fevers" in India is due to malaria, but from various considerations and from the results of enquiries that have been made, it may be said that for India as a whole the proportion is almost certainly not higher than between twenty and thirty per cent., in all probability it is much lower. After relating the considerations and enquiries upon which that estimate is based, the Sanitary Commissioner adds that if we assume that the true mortality from malarial fever among the civil population during 1906 would have been 1,113,210 and the death-rate 4·9 per mile of the population. Malarial fevers were considerably more prevalent in nearly all the provinces of India during 1906-7 than during 1905-6, but the extent of the increased prevalence is not indicated by the comparatively small rise (35,187) in the total of deaths recorded under the heading "fever." This is due, it is explained, chiefly to the fact that in Bengal 81,908 fewer deaths were recorded under the heading and in Eastern Bengal and Assam, 50,527 fewer deaths: in all provinces there was a considerable rise in the number of deaths attributed to this cause. The largest number of deaths and the highest death-rate from fevers during the year were recorded in the United Provinces, but there is no doubt that this is not the province in India where malarial fevers are most prevalent and severe. For India as a whole, November was the month in which most deaths from fever were recorded and in February the fewest.

The number of deaths from cholera recorded in British territory was 692,519, equal to a death-into of 3·95 per thousand of the total population. If the deaths recorded in the Native States from which returns were received are added, the total amounts to 713,663 cholera being one and a half times as prevalent as in the previous year. Investigations into the disease have been concerned chiefly with the problem whether the Tor vibrios are or are not the true cholera vibrios. Bacteriologists are not in agreement as to the correct answer to this question. It is unfortunate, in the opinion of the Sanitary

Commissioner, that the different workers are not of one opinion on the matter because, on the one hand if the Tor vibrios are not true cholera vibrios it must be concluded that the bacteriological methods hitherto employed for the diagnosis of the cholera vibrio are not adequate for the purpose and, on the other hand, if the Tor vibrios are true cholera vibrios it must be concluded not only that under certain conditions the cause of cholera, like that of typhoid fever, can remain in apparently healthy human beings much longer than has been thought possible hitherto, but that the "cholera bacilli carriers" are not necessarily dangerous to the community Deaths from small-pox increased in the period under review. The mean ratio for the quinquennial period from 1901-1905 was '38 per mille against '48 in 1906. The death-rates were higher in all provinces except the Bombay Presidency and Ajmer-Merwara, the increase being greatest in Bengal, the United Provinces, the Punjab, the North West Frontier Province, Lower Burma and Coorg. The small pox mortality recorded in towns was twice as high as that in rural areas; and the deaths of children under ten years of age amounted to 68·39 per cent. of the total number of deaths from this cause. Under dysentery and diarrhœa the number of deaths rose from 264,124 to 298,117 and the death-rate from 1·17 to 1·32, which is the highest since 1900. It is almost unnecessary to say, observes the Commissioner, that the number of deaths and the death-rate recorded do not represent, even approximately the true mortality from these causes. In Bombay Presidency 96,736 deaths were recorded, the death-rate, 3·34 per thousand being higher than in any other province during the year and the death-rate higher than in any other province except the Central Provinces and Berar.

WORK AMONG THE LEPERS. THE DEOGHUR ASYLUM.

The following is the annual report of the Rajkumari Leper Asylum, Baidyanath (Deoghur), for last year :—

A report of the working and the management of the above institution during 1907 is published for general information. The inmates of the Asylum continued as before to be treated under the homœopathic system, and Nim oil was used with its usual benefit.

At the beginning of the year there were 58 inmates; 58 more were admitted during the year, of these 34 left with their sores cured, 38 left uncured of sores, 6 died, and 38 remained at the end of the year. The 6 persons who died were all admitted picked up by the police in the streets in a moribund condition. The 38 who remained included 30 male and 8 female.

I take this opportunity to once again bring to the notice of the general public that the Lieutenant-Governor has promised a grant of Rs. 6,500 if the Trustees of the fund can raise a similar amount to carry out suggested improvements. And it is with peculiar pleasure and the warmest feelings of gratitude that I have to announce that his Honor has not only made this promise, but has during the year under report actually made a grant of Rs. 2,500 to the funds to enable us to build quarters for the Superintendent. This should leave no doubt in the minds of the generous public that the institution is really doing useful work. The asylum was inspected by Mr. D. J. Macpherson, C. I. E., Commissioner of the Bhagalpur Division; and it is due to his great interest in the institution and his earnest recommendation that it has obtained sympathy and substantial support from Government and the Trustees cannot sufficiently thank the Commissioner, of the Division for the kindness he has shown.

The Committee has been able to start the building of the superintendent's quarters with the sum of Rs. 2,500 received from Government and satisfactory progress has been made with the work. I regret to notice that no contribution has been received from the public towards improvements to the buildings. Contributions towards the maintenance of the institution, including subscriptions in 1907, amounted to Rs. 1,955-6 against Rs. 2,326-1 in the previous year. The ordinary expenditure on the maintenance of the institution during the year under report amounted to Rs. 2,653-2-3 against Rs. 3,128-9-6 in the previous year. This is owing to the number of inmates being less, the average daily attendance in 1907 being 41·47 as against 53·73 in the previous year. The following donations deserve to be specially mentioned.

(1) The Maharani of Darbhanga (widow of the late Maharaja), Rs. 150; (2) The executors to the estate of Nistarini Dassi deceased, Rs. 100; (3) the Maharani of Cooch Behar in commemoration of her father's annual Sradh, Rs. 49; (4) Srijukta Hari Rana Goenkar Rai Bahadur of Calcutta, clothing and winter clothing worth Rs. 43; (5) wife of Sir Chandra Madhaba Ghosha, Kt., cloths to the value of Rs. 40; (6) Hon'ble Rai B. K. Basu Bahadur of Nagpur, clothing and winter clothing to the value of 30; (7) Srijukta Niroda Barani Ghosha widow of late Prea Nath Ghosha of Serampur, Rs. 30.

The committee in conclusion offer their hearty and respectful thanks to the donors and to the generous public for their support to the institution in the past and hope they will continue the same in the future to relieve poor miserable lepers.—

Barada Prasada Basu Deva Varmana, Honorary Secretary.

SHORT ITEMS.

Assistant Surgeon A. W. Gernon in subordinate medical charge of the Station Hospital, Bellary, is granted 90 days, privilege leave from the date of relief.

The Plague regulations imposed in the ports of Orissa against vessels arriving from Mandvi in the Bombay Presidency have been withdrawn.

Cholera has broken out among the Reserve Police at Tinnevelly. A European sergeant succumbed the other day.

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Current Medical Literature.

MEDICINE.

THE TREATMENT OF INFECTIOUS PYELONEPHRITIS.

Juy (American Journal of Urology, July, 1907) summarizes a lengthy, but extremely able, article on this subject.

Simple infectious pyelonephritis can usually be cured by sufficiently prolonged medical treatment. It is consequently necessary to look for the symptoms in order to make as early a diagnosis as possible.

It is by a systematic examination of the ureter in its abdominal course as well as in its passage through the pelvis that pyelorenal infections are to be detected. The painful points (subcostal, paraumbilical), the sensation of a large and painful ureter ascertained by vaginal examination, painful spots on the prostatic cornuæ, uretero-vesical and pyelovesical reflexes, associated with pyuria and nocturnal pollakiuria, form a clinical complex described by Bazy, which will allow one to make sure of the existence of a pyelonephritis.

Medical treatment includes hygienic measures and diet. As long as pus cells are present in the urine, the patient should be kept in bed on an absolute milk diet. Balsams may be useful, but at the present time there is a tendency toward the use of internal antiseptics; salol and especially urotropin and helmithol have given really remarkable results. And lastly in certain cases, the medical treatment is to be completed by hydrologic medication.

The amelioration and cure of simple pyelonephritis are announced by the disappearance of the painful points along the ureter, the cessation of the nocturnal pollakiuria and pyuria.

In the pyelonephritis with distention, the indication for operation is, above all, furnished by changes in the general health, the persistency of the pyuria, and the increase in size of the kidney.

All surgical interference in cases of septic retention should be preceded by an examination as to the functional value of both kidneys. In the first place it is useful to study the total urinary depuration by the classical procedures, such as histological and chemical examination, cystoscopy, etc. These procedures are afterward applied to the study of the urine coming from each kidney, collected either by ureteral catheterization or segregation.

Nephrostomy is the operation of choice in septic pyelorenal retentions.

Lumbar fistulæ, which persist, being kept up by an incomplete retention, should be treated by secondary interference; lateral anastomosis of the ureter to the renal pelvis, resection and transplantation of the ureter, or orthopedic resection of the kidney will result in a cure.

From the progress accomplished in conservative surgery of the kidney, secondary nephrectomy presents very limited indications.

The pyelonephritis of pregnancy, on account of its particular evolution, should be treated medically, and surgical interference of the kidneys is only indicated after removal of the fetus. Labor should be induced only in rare exceptions.

THE INFLUENCE OF X-RAYS IN THE TREATMENT OF LEUKEMIA AND HODGKIN'S DISEASE, WITH A REPORT OF TWO CASES.

Roth contributes a paper with this title to the Journal of the American Medical Association of October 20, 1906. He concludes that the beneficial therapeutic value of x-ray treatment in Hodgkin's disease is well demonstrated in a case reported. The decrease in the glandular enlargement was comparatively rapid, but the enlargement will probably recur unless x-ray treatment is persisted in.

In a case of leukemia, for a long time the x-ray treatment did not inhibit the further progress of the disease process, as is indicated by the great increase in the leucocytosis for three months after treatment was begun. After using the x-ray treatment systematically for over one year the leucocyte count finally returned to normal. This was not accompanied by much decrease in the splenic enlargement. The use of arsenic as an adjuvant to x-ray treatment seemed of much benefit.

The immediate effect of x-ray treatment is to increase the number of leucocytes in the general circulation. This increase is accompanied by a large increase in the number of degenerate cells, most of which are disintegrating myelocytes. No toxic symptoms have developed during the long course of treatment. Although the leucocyte count has remained normal for a period of two months, the patient was advised to continue the use of the x-rays at intervals to prevent a recurrence of the blood condition.

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SURGERY.

NEPHRECTOMY IN INJURY OF THE RENAL ARTERY.

Ligation of the renal artery leads with absolute certainty to complete destruction of the kidney, and Jungano (Annales des Maladies des Organes Genito-urinaires, No. 13, 1906) noted that occlusion of this vessel invariably caused the death of dogs and rabbits, although in some cases not until several months later. The poisons formed during the degeneration of the organ cause systemic intoxication and also injure the other organ. The results of the individual experiments corresponded very closely with those previously reported as following the ligation

of the vein, the immediate congestion being, of course, replaced by anemia.

TORSION OF THE SPERMATIC CORD.

In the course of an editorial on this subject in the American Journal of Urology for July, 1907, the following comments in regard to diagnosis and treatment are given.

The diagnosis of torsion of the cord is a matter of extreme difficulty in many cases. One usually thinks of a strangulated inguinal hernia with a tendency to intestinal necrosis, and it is only during the operation that the true condition of affairs is revealed. At other times an orchitis arising in a testicle in ectopia is the diagnosis, but there are no distinctive signs which will allow one to differentiate the two affections, and it has been asserted by Vanverts that a testicle whose cord is strangulated becomes easily inflamed and gives rise to lesions of inflammatory orchitis. The causal traumatism may also be the means of leading one into an erroneous diagnosis, which may be that of a deep-seated hematoma. But from the very beginning of the trouble the symptoms of internal strangulation are very prominent, and show the necessity for an immediate operation; in other words, in many cases the diagnosis is subordinated to the surgical intervention.

The prognosis of this form of strangulation is serious, unless treated surgically, because the consequences of torsion of the cord means the loss of the testicle. Spontaneous untwisting is the most favorable outcome, but in order that the testicle be free from any lesion the occurrence should take place early in the process, during the first few hours, otherwise the parenchyma of the gland becomes hyperemic, then degenerates, and finally undergoes atrophy.

If reduction of the torsion does not arise during the first few hours surgical operation is absolutely necessary, and one should not wait too long in hope of a spontaneous cure, because the testicle will rapidly undergo disintegration; one should interfere before any invasion of the surrounding regions from the necrotic process has taken place.

The nature of the operation is a question to which much thought must be given, and whether or not a child should be submitted to castration for torsion of the cord is a matter of much conjecture. According to modern surgery, however, it is hardly to be discussed; given the advanced state of testicular lesions met with in all such cases, the facility of the recurrence of trouble, and the impossibility of solidly fixing the testicle, no hesitation is permissible, and the gland should be removed after reduction of the torsion of the pedicle. To allow a testicle to remain after reduction of the torsion simply means the continued possession of a diseased organ which will be useless in the future, and exposes the subject to further attacks of strangulation at no distant date.

OBSTETRICS.

THE OPERATIVE TREATMENT OF CHRONIC PUERPERAL INVERSION OF THE UTERUS.

By Dr. E. Gross (Zent. f. Gynak. November 16, 1907). The patient, a young primipara, had a forceps delivery followed by post partum hemorrhage and inversion of the uterus. Attempts at reduction were futile. Six months later she was operated upon. A horizontal incision was made in the posterior vaginal wall, opening up the peritoneal cavity. Because of the presence of broad adhesions, the attempt to introduce the finger into the funnel from within outwards, split the posterior uterine and cervical wall, reduce the inverted uterus and finally suture the wound in the uterus—after the method of Kustner—failed. The abdomen was now opened from above and the adhesions disposed of. The left adherent ovary was detached from its connection with the margin of the "funnel." The right ovary had to be dug out of the lumen of the "funnel." The Fallopian tubes were buried in adhesions and their abdominal openings were sealed. An attempt to reduce an inverted uterus by gently stretching the inversion-ring from above was not successful. The posterior uterine wall was now split to the fundus, the uterus reduced, and the wound sutured from fundus to cervix. After appropriate drainage the wounds were closed and the patient recovered.

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PATHOLOGY.

THE BACILLUS PARALYTICANS AND GENERAL PARALYSIS OF THE INSANE.

(Lancet).—That the intelligent and successful treatment of any given disease is absolutely dependent upon a correct appreciation of its associated pathologic processes and particularly of its ultimate etiologic factor may be stated as a fundamental principle which is well illustrated by that condition known as general paralysis of the insane; for, despite the many years during which the disease has been familiar to the neurologist, has been diagnosticated, and studied, its average duration remains about two years from the onset of symptoms, and of curative treatment there is none. In such circumstances Dr. W. Ford Robertson's investigations into the bacteriology of general paralysis are deserving of the warmest praise but the importance of the subject demands that his experiments and the conclusions drawn from them should be subjected to the most rigid scrutiny.

A number of strains of diphtheroid bacilli, all "Neisser-positive," which have been isolated from cases of general paralysis or of tabes dorsalis, were tested as to their fermentative activities in various carbohydrate media. By means of their several reactions these bacilli were differentiated into two distinct species, named respectively bacillus parailticans yongus and bacillus paralyticans brevis, and to them severally and collectively Dr. Ford Robertson and Dr. McRae ascribed specific pathogenic properties. Each of these

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species was in some instances virulent for the mouse but never for the guinea-pig; while by the prolonged feeding of rats with cultivations of these bacilli, symptoms and lesions similar to those of general paralysis of the insane were produced in the rodents. Discussing the question of the portal of entry Dr. Ford Robertson and Dr. McRae distinguish between general paralysis of the insane, in which the infective focus is situated in the buccal and naso-pharyngeal mucosæ, and tabes dorsalis, where the point of invasion is the whole of the genito-urinary tract and the lower part of the alimentary canal; and they affirm that in these situations they have obtained evidence of actual tissue invasion, as opposed to mere contact, by these particular bacilli. References was also made to the immunization of the sheep to the bacillus paralyticans and to the associated rise in the phagocytic index of the serum observed during the process. In the discussion which followed, and in which some well-known bacteriologists as well as clinicians took part, the opinion was almost universally expressed that although the disease was in all probability primarily a toxemia, yet the evidence adduced by Dr. Ford Robertson and his colleague was insufficient to justify the claim to specificity advanced on behalf of the bacillus paralyticans, or even to demonstrate the bacterial origin of the toxin. Indeed, one observer, Dr. George M. Robertson, who detailed some experiments supporting Dr. Ford Robertson's original statements that a diphtheroid bacillus was invariably present in general paralysis, stated that he had now observed this association in nine out of ten cases examined in the Stirling District Asylum—the organism being isolated from the peripheral blood in no less than seven cases—but that in no case was the organism isolated identical with bacillus paralyticans. Then, too, those criteria of specificity advocated by our own countryman, Henle but more generally referred to as the "postulates of Koch" were freely invoked by many of the speakers, and the observations of Eyre and Flashman recorded a few years back, which showed that the presence of diphtheroid bacilli in the buccal and nasopharyngeal mucosæ was not peculiar to the general paralytic but could be observed in similar situations in patients suffering from other nervous lesions and in the sane, were referred to; and it was pointed out that diphtheroid bacilli were fairly common saprophytes; were found in some articles of food, e.g., milk, and in numerous situations on and in the body, in health as well as in disease, particularly in the genito-urinary tract; and were frequently encountered in morbid material side by side with microorganisms which were of themselves capable of producing the special lesions with which they were associated.

This ubiquity of diphtheroid bacilli, many of which are indistinguishable from the organisms isolated by Dr. Ford Robertson, actively militates against their suggested possession of pathogenetic properties, and in this connection it may be remarked that even tissue invasion by purely saprophytic bacteria is not unknown and we might instance the condition known as xerosis conjunctiva where diphtheroid bacilli undoubtedly invade the membrane and may be demonstrated in sections throughout the entire thickness of the altered conjunctiva, but in spite of this fact it is now generally conceded that the xerosis bacillus plays no part in the causation of the affection. Again, it is assumed by Dr. Ford Robertson that the elaboration of bacteriolytic substances in response to the introduction of cultivations of bacillus paralyticans into the animal body necessarily denotes the possession of pathogenetic properties by that bacillus, regardless of the fact that inoculation with practically any and every bacterium, virulent or harmless, will simulate the formation of special antibodies.

FUNCTIONAL HEART DISEASE.

In the International Clinics (Volume 1 Seventeenth Series), James J. Walsh summarises the treatment of functional heart disease. The principal cause for regular irregularity of the heart is toxic, and very probably the most common of these heart disturbing causes is tobacco. The remedy for tobacco heart, after of course the stoppage of tobacco, is strychnin in some form. Personally, however, he prefers nux vomica in some form to the alkaloid. He gives it in the form of tincture, and increases the dose until the physiologic effects of the drug became manifest. The coffee heart is not so common as the tobacco heart, and is seen much more frequently in women than in men. The drug treatment of the coffee heart consists mainly in the use of the bromids. A sufficient quantity of the drug should be given, and at least 15 grains (one gram) three times a day given to lighter patients, and 20 grains (1.3 gram) to heavier patients. He prefers a mixture of the bromids, such as the elixir of the bromids of the National Formulary. It must not be forgotten that the effect of the bromids can be noticeably increased by counseling abstinence from table salt during the course of the treatment. After the regularly irregular heart due to some toxic influence, the most common form of functional heart trouble is palpitation. It occurs particularly in very nervous persons, who are likely to dwell much on their feelings, and they complain most of its occurrence shortly after meals. Not infrequently this form of heart disturbance is associated with flatulency and gaseous distention of the stomach. The first indication for treatment here is the relief of the stomach trouble, and he believes the most effective remedy is the old-fashioned one of rhubarb and soda, and he has found Squibb's preparation especially effective. In most of these cases, too, it is important to secure the muscular action of the stomach and this is best accomplished by means of nux vomica, in liberal doses, which will also act as a stimulant to the irritated heart.

THERAPEUTICS.

CARDIAC CONDITIONS IN ACUTE INFECTIONS.

In the Medical Record for June 29, David Bovaird, Junior considers treatment of the cardiac conditions of acute infections

diseases under these heads: (1) circulatory failure at the height of the acute infections, (2) cardiac dilatation (acute) (3) bradycardia, irregular or intermittent heart action, (4) asystole. In the acute infections, the circulatory failures seen are not cases of cardiac failure properly speaking, but of a vasomotor paralysis produced by the effect of the toxin on the vasomotor center. The vasomotor paralysis affects especially the vessels of the splanchnic area, and the heart fails because of lack of blood to act upon. To strengthen cardiac action therefore, one must restore the tone of the vessels, particularly the splanchnics, and the remedies most efficient are caffein, camphor, infusion of normal salt solution and abdominal massage. His own experience with caffein and camphor as not led him to put great confidence in them, and while, theoretically, adrenalin meets the indications, its action is very transient and uncertain, and he has never seen the beneficial effects claimed for it. All are convinced of the value of normal saline solution to help the failing circulation, but we should use it cautiously in pneumonia, lest we overtax the right heart. Despite the apparent failure in experimental work the best clinicians still rely upon alcohol, strychnin and digitalis to meet this circulatory failure of the acute infections. Acute dilatation of the heart, resulting from myocardial changes directly, may occur at the height of any of the acute infectious diseases but is more frequently seen during convalescence. In most cases it may be avoided by requiring rest in bed for some days after the pulse becomes normal. The danger of acute dilatation is greatest in diphtheria, and may come on independently of exertion of any kind. The treatment is rapid, and vigorous stimulation of the heart, by camphor and ether and whiskey hypodermically, then strychnin and digitalis, caffein may be given or strong black coffee. After the crisis of the onset passes he relies upon the systematic use of strychnin and digitalis; with restlessness or pain, morphin or opium is of great help especially in children, and as long as there are any signs of cardiac weakness there is a risk in allowing any liberty especially in children. Bradycardia occurs most commonly during convalescence and most frequently after diphtheria. In convalesence from pneumonia or thypoid fever, bradycardia is quite harmless, but in diphtheria any disturbance of the pulse is to be viewed with concern and efforts made to prevent possible serious cardiac failure. Medication is of secondary importance, and if there is faintness or prostration with the irregularity give alcohol, caffein, or strychinin. Digitalis or strophanthus is not of service in these conditions. As to asystole, the sudden stopping of the heart is rare in the acute infectious diseases but most apt to occur in diphtheria or pneumonia. Care should be observed in the transition from rest in bed to active effort, the responsibility resting with the patient after having been warned. No treatment avails, death being instantaneous.

TREATMENT OF SCARLET FEVER.

A number of applications have been employed in this disease with variable success. Ichthyol locally has given W. T. Marrs, of Peoria Heights, Ill., gratifying results of late and henceforth he will depend upon it. He uses a mixture of ichthyol made up with glycerin and water, and applies it to the entire body. No Substitute or "just as good" preparation should take the place of ichthyol when we would be sure of results, the writer insists. In this disease every gland and emunctory should be made active. Colomel and salines in appropriate doses are valuable remedies. Potassium citrate is a cooling diuretic. Acidulated drinks are desirable. During the stage when there is the greatest hyperemic condition of the kidneys the child should subsist mainly upon milk, preferably buttermilk. Ventilation should be so arranged as to prevent chilling the patient, and the danger of nephritic trouble is thereby lessened.

TREATMENT OF MORPHINE HABIT WITH DIONIN.

For the cure of the morphine habit, James P. Haines, of Beloit, New York uses dionin, as follows: If the patient uses 3 grains of morphine per day, substitute for it 1½ grain morphine 1½ grain of dionin, gradually reducing the morphine daily by 1-6 grain for ten days, and correspondingly increasing the dionin, so that at the end of the period dionin only is being given, 3 grains continued for three days. The dionin is then reduced, 1-6 grain less per day, until nothing but water is being given. The writer thinks it just as well to continue treatment for about three months, giving as a tonic 1 grain of quinine per day, and either veronal or somnos for insomnia. In using dionin and morphine together, the writer states, the effect of the dionin is observed much sooner, but it never increases the effect of the morphine. Another point he makes in favor of dionin is that it does not make the mouth sore, as he has observed codein and atropine to do

WHOOPING-COUGH.

The treatment is that of infection. The remedies are legion and cannot be reviewed in this connection. In many cases, sedatives, particularly the bromides, and various inhalants exert a beneficial influence. Personal experience with the old quinin and belladonna treatment, the latter pushed to its physiologic limit, has led me to continue its use. Better than medicine, however, is outdoor life during the daytime, in the country or at the seashore if possible, and open windows at night. The bronchitis must be treated with as much care as in a primary case affecting the smaller tubes. (James M. French, M. D. "Coughing and Its Relation to Treatment." Internat. Clinics Volume 1, Sixteenth Series.)

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Audi Alteram Partem.

DELETERIOUS SURROUNDINGS.

To the Editor, The Indian Lancet.

Sir,—There can be but little doubt that all unnatural and artificial modes of life tend to deterioration of the powers of resistance of the oraganism to disease We see it exemplified in plant life in circumstances which are unnatural to the life of the plant, and the prevalence of certain constitutional tendencies among the inhabitants of crowded cities bears evidence to the same law. Man, like other animals was naturally intended to lead an out-door, life. He was originally a hunter and a tiller of the ground, breathing a pure atmosphere, living on a frugal diet, and exercising his muscles. Whenever these conditions are infringed, his powers of resistance to disease are lessened, and certain tendencies, begin to show themselves which are generally termed constitutional. Thus the liability to tubercular infection is far commoner in the midst of a depraved population than in one fulfilling the primary laws of Nature; rickets is a disease of great cities rather than of rural districts. Cattle kept within doors are, in a large proportion of cases, tubercular, while those leading an out door life are much less liable to infection. Every living organism, animal and vegetable, tends to maintain a normal state of health; it is when the natural laws of health are violated that the liability to disease begins to assert itself.

Yours etc.,
J. J. C.

CURE FOR LIVER ABSCESSES.

To the Editor, The Indian Lancet.

Sir,—A discovery which promises to be of extraordinary importance in all countries where liver abscess prevails is described by Major Leonard Rogers, I. M. S, in his extensive work on Fevers in the Tropics, issued by the Oxford University Press 1908. It is to the effect that large doses of Ipecacuanha administered during the stage of obscure fever which ordinarily precedes abscess will, in a very large number of cases, prevent the mischief from going any further. Major Rogers bases his conclusions upon a large number of cases especially of Europeans in Calcutta. The treatment depends upon the new established facts first that the ordinary tropical liver abscess generally is the result of infection from ambebic dysentery either acute or as is not subsequently the case suppressed, and secondly that ipecacunha removes this infection and thus puts the patients into a condition favourable for recovery before suppuration occurs. In Lower Bengal where ambebic abscesses is common, Major Rogers considers Ipecacuanha second in importance only to quinine itself, and he is able to quote a percentage of successes so high as to inspire confidence in the theory. An important feature of this theory is that ambebic infection may be present and may lead to abscess even in cases where there is no previous history of dysentery.

Yours etc.,
PITT.

PASTEUR INSTITUTE, COONOOR.

To the Editor, The Indian Lancet.

Sir,—A letter from the Government of India, Home Department, No. 51, dated the 17th January 1908, forwards copy of a despatch from the Secretary of State approving the proposal that in the case of officers in receipt of not more than Rs. 500 a month, who proceed to a Pasteur Institute for treatment and whose absence gives rise to the necessity for the appointment of a substitute, the period of absence up to one month should be treated as extra privilege leave and not as casual leave, and circulates to officers the rules as corrected up to date for the grant of concessions to persons proceeding to the Coonoor Institute for treatment.

The rules as corrected up to date for the grant of concessions to certain classes of Government servants and to indigent persons not employed in the public service in the Madras Presidency to enable them, when bitten by a rabid animal, to proceed to the Pasteur Institute at Coonoor for treatment have been published in the Fort St. George Gazette, dated 25th February 1908.

List of officers empowered to grant concessions to indigent persons not employed in the public service to proceed to the Pasteur Institute, Coonoor for treatement:—Commissioned Medical Officers, Civil Surgeons, Military Assistant Surgeons, Civil Assistant Surgeons and Civil Apothecaries in independent charge of hospitals.

The following officers will excerise their powers only when there is no medical officer present at the station:—Collectors Divisional officers, Tahsildars, Deputy Tahsildars in independent charge, Officers of the Police department of and above the rank of Deputy Superintendent of Police, Sub-Registrars, Sub-Assistants of Survey.

Yours etc.,
W.

ADAMS WYLIE HOSPITAL.

To the Editor, The Indian Lancet.

Sir,—His Excellency Sir George Clarke, Govenor of Bombay, performed the opening ceremony of a phthisical ward at the Adams Wylie Hospital in the presence of a large number of ladies and gentleman. The ward was built out of a donation of Rs. 25,000 made by the late Mrs. Avabai Framji Petit and is named after the late Mr. Nassarvanji M. Petit.

Mr. Adams Wylie in requesting His Excellency to declare the new ward open said that from the very commencement of the founding of the hospital many persons suffering from pthisis had applied for admission into the hospital. Those suffering from the disease were not admitted into some of the hospitals in Bombay. Persons suffering from pthisis should be kept as aloof as possible from other patients. At many places in Bombay rooms were often overcrowded and the danger therefore in that case of many persons being infected with pthisis if one of them had already had that disease. The new ward about to be opened was a small one, yet he hoped that these hospitals in Bombay which had no separate pthitical wards would follow the lead of the Hospital and open such separate wards. The new ward owed its existence to the munificence of the late Mrs. Avabai F. Petit. She regreted that the philanthropic lady did not live to see that ward open.

His Excellency the Govenor in addressing the meeting said he had great pleasure in being present there that afternoon. He had read the past history of the Hospital which had in the past to undergo many difficulties, but he was glad to say that that stage had now been passed, thanks to the persevering efforts of Mrs. Dowtie-Wylie. The Hospital had been opened by his predecessor Lord Lamington. At that time the funds of the Hospital were not large owing to the institution being then in its infancy; but he was glad to learn that the funds now amounted to about lakh of rupees. The public had responded heartily to the appeal for funds for the Hospital. The opening of the new ward introduced a new chapter in the history of that institution. He greatly regretted to say that pthisis was on the increase in Bombay, and he was shocked to find in some of the hospitals in Bombay patients suffering from pthisis being treated in the same wards with patients not suffering from that disease. This should not happen since pthisis was a contagious disease and there was the risk of other patients being infected with it. In England patients suffering from pthisis were kept in quite separate wards. Patients in the early stage of the disease should be promptly taken to hospitals for treatment as there was a possibility of their recovering in that case. He congratulated Mrs. Wylie and the other willing helpers of the Hospital on their being able to achieve the success they had done. Those who helped the Hospital should feel the satisfaction of having helped towards the lessening of suffering.

His Excellency then proceeded to the new ward and expressed himself satisfied with the arrangements made in the ward for the patients. He then declared the ward open.

A donation of Rs. 1,000 from H. H. the Thakore Sahib of Palitana was annouced.

A vote of thanks to H. E. the Govenor terminated the proceedings.

Yours etc.,

E. H.

RURAL SANITATION IN INDIA.

A GREAT STATE PROBLEM.

To THE EDITOR, THE INDIAN LANCET.

SIR,—One of the great Indian problems of the day is rural sanitation, but the strongly conservative habits of the people will make progress in reform very slow indeed. In the large towns the supply of pure water and the completion of drainage schemes have done much to improve the public health; but the villages for the most part still remain in primitive conditions which foster epidemic disease. An account is given of the ravages of cholera, from time to time, in this district of Bengal, and one sees at once how the insanitary surroundings of the villagers encourage mortality. It is stated that cholera appears in epidemic form every second or third year, six outbreaks having been reported between 1892 and 1907. In the worst of these (1894) the mortality reached the unprecedented figure of 11·16 per 1,000. The area affected was too scattered to be efficiently dealt with: "the superstition of the people, their habit of flying into the jungle on an outbreak occurring, and their dislike and mistrust of European medicines made it a hopeless task to cope effectively with the disease." The total number of deaths reported was 6,665, while the number of persons who received medical aid was only 476. Matters may have improved since 1894, but the description given of the conditions favouring the spread of cholera apparently still exist—"filthy, sodden villages, and a water-supply polluted in every possible way." The common village springs are used by the people and their cattle alike, and the drainage from the fields pollutes the water. In the hot weather the supply is scanty: in the rains it is contaminated by surface drainage. Dysentery, fever, cholera, etc., play havoc with the lives of the villagers; and yet Palamau shows a marked increase of population, the birth-rate being the highest in Bengal.

There are many districts in Bengal in a worse state than Palamau, especially the tracts that are swept each year by malarial fever; and it will be an uphill struggle to introduce even elementary sanitation into the villages. A beginning is being made, however, and special grants are being allotted by Government, but crores could be spent where only lakhs are available. District Boards must be stimulated to action and more funds be placed at their disposal if any permanent good is to be effected. The people themselves are obstructive; but it should be possible to do one thing at any rate in every important village, namely, to protect the water-supply from pollution. Drainage and conservancy works can come later: a well or a spring which will always yield pure water will, in itself lessen the mortality from epidemic disease in a remarkable way. From such a modest start the principles of sanitation can slowly be made familiar to the mass of the people: elaborate sanitary schemes will cause a disturbance of village-life and probably result in popular feeling being arrayed against them from the outset. If healthy conditions are to be created in rural areas the co-operation

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of the villagers themselves must be gained, and hence the necessity of moving cautiously in all measures of reform

Yours etc.,
R. F.

THE MADRAS OPHTHALMIC HOSPITAL.

To the Editor, The Indian Lancet.

Sir,—The Madras Government has issued a lengthy order anent the memorial submitted by one Manickan of Saidapet to the Government of India, which contained a series of charges against the staff of the Government Ophthalmic Hospital, Madras. It was alleged that in specific cases, of which the memorialist asserted he had knowledge and proof, fees were demanded from patients resorting to the hospital for treatment, or the patients had to leave the hospital without being treated, because they were unable or unwilling to satisfy the improper demands of the staff, and that other irregularities were also committed. The memorial was referred for report to the Surgeon-General, who obtained and submitted to Government the reply of Major R. H. Elliot, I. M. S., Superintendent of the Hospital. The Govenor in Council was of opinion that in the interest of the public and all concerned the charges made by Manickan should be formally investigated and reported upon by an officer accustomed to weighing evidence. It was accordingly resolved to appoint the Hon'ble Mr. J Andrew, I. C. S., Acting Fourth Member of the Board of Revenue, to investigate the charges laid against the Superintendent of the Hospital and his subordinate staff. Mr. Andrew was invested, under the Madras Reveune Enquiries Act, 1893, (Madras Act 5 of 1893) with the powers specificed in that Act. Details of the charges were then set forth at length and numerous other charges made by Manickan against Major Elliot, which may be summed up under the following heads :—(1) Ill-treatment of, and cruelty to, patients in the Ophthalmic Hospital ; (2) demanding or exacting through his subordinates fees from the Hospital patients,and inducing them to resort to him for private treatment ; (3) unseemly and unprofessional conduct towards private patients.

Charges were made also, the Government Order continues, against members of the subordinate staff. Investigation has however shown, that the attack was really directed almost entirely against the Superintendent personally. The Government consider it advisable in the interests of the Hospital and of Major Elliot to publish the result as regards Major Elliot at once. Government in their Order characterise the allegations as an odious conspiracy against the Superintendent which the enquiry has unmasked.

The "Madras Mail," while regretting that any enquiry should even have been deemed necessary, maintains, that if such inquiries are to be held, action should be taken on the finding of the investigating official, especiable when as in the present instance, Government concur in believing that the case has been put forward maliciously. The "Mail" goes on to describe Major Elliot's unexceptionalbe record during the many years he has been in charge of the Ophthalmic Hospital.

Yours etc.,
C.A.P.

BUGS AS DISEASE CARRIERS.

To the Editor, The Indian Lancet.

Sir,—A most obnoxious domestic pest. Instead of calling the creature a 'pest,' I might truly say 'pet' for wherever Hinduism and Bhuddism obtain, the bug is allowed a free hand to live and move and have its being and to fulfill its destiny, because the followers of the above-named religions refrain from taking life. The bug is of nocturnal habits, though it does not hesitate to attack in abroad day-light if it can secure what it calculates to be secure cover. In this calculation it often makes a mistake and pays the penalty of its life.

Unlike the mosquito and flea which will seek out their victims in the best regulated establishments the bug seeks its feeding ground only in the midst of insanitary conditions both domestic and personal, and once established in a situation is hard to drive out, because of its immense prolificity, and highly developed acuteness in seeking cover against danger with a speed one would hardly credit the pest with. Its powers of insinuating itself anywhere, in the most impossible situations apparently is remarkable ; but as I have said insanitary surroundings form the creature's normal habitat. Hence in houses where bed-linen leaves much to be desired in the way of cleanliness and sweetness, there the bug revels in its glory! and its sense of smell appears to be attracted by emanations given off from such impediments. Introduced accidentally in a domicile where cleanliness is observed, or even placed in a similar situation experimentally, it is found that the bug abandons such an abode. Nor, if it finds lodgment on the person of an individual whose habits of personal cleanliness are blameless, will it remain longer than it can change its situation for one more congenial to its tastes! that is in habilments of the unwashed.

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The bug, or "cot-bug" or "house bug" as it is more generally called possesses a remarkable tenacity of life. It has been known to drop from the roofs and walls of houses which have been vacated for months, and which have received new tenants after that period. Though found thus in an almost moribund state it soon under favoring conditions renews its activity. It thrives best in a hot climate.

Scocter says that it has been recently discovered that this blood-thirsty parasite conveys to man a most dangerous kind of fever called "Madras Black Town Fever," the chief symptoms of which are a protracted fever with a temperature more or less exalted, marked bloodlessness, and in white people a discoloration to the skin. The disease is fatal if not promptly dealt with. I often wonder how soon the human race will be improved off the face of the earth. The doctors have already an interminable list of microbes which assail us on all sides, and are daily adding others to the list! visible enemies like mosquito and flea and bug, have been found to be auxiliaries, poisoning us through all the inroads of our humanity, till as I have said the marvel is that we are living at all, and going our ways much in the same style our forefathers did who knew nothing of filters and microbes. A reputed man of science Scooter informs me, recently delivered it as his opinion, that the time will come when there will be no disease amongst mankind; that science will have advanced as far as to be able to adopt preventive measures against all the ills that flesh is heir to. Well that may be so. I don't know. It invites speculation however, as to what sort of a world this will be, when there is no bodily disease; nothing left to excite the sympathy of our fellows for one another; no sick-room fads left us to nurse; no medicine bottles left to introduce into the nursery as a disciplinary agent; nothing but plain sailing. Of course if all this causes disappointment, there will be compensation in the thought that there will be no doctors or chemists' bills to negotiate. Meanwhile we will use our best endeavours in disposing of the miserable et hoc genue omne.

Scooter has already indicated how we may effectually dispose of the mosquito and flea. Queried about the treatment to be adopted for the annihilation of the bug, his answer is very decisive "wash and be clean" he says "and purify your belongings where the pest has secured a footing by fire. A flame of fire and nothing less. The application of such stuffs as kerosine oil, neem oil, so popular amongst the ignorant are useless; bugs thrive on them like a cat on cream."

Yous etc,

K. G. F.

WAR ON RATS.

To the Editor, The Indian Lancet.

Sir,—The Executive Committee of the recently constituted Society for the Destruction of Vermin have decided, in the first place, to direct their chief action against rats. A representative scientific committee has been formed to conduct research and experimental work, while the actual operations of destruction will be organised by an active committee. The society does not commit itself to the adoption of any one method of destruction, but holds itself open to give all methods a trial and apply them according to circumstances. The co-operation of agricultural societies and other associations at home and abroad will be heartily welcomed. It is proposed to establish branches and provincial centres, and existing rat and sparrow clubs will be able to obtain the advantages of affiliation. The Publicity Committee will arrange for the issue of leaflets and literature, as well as the holding of lectures. Railway, dock, shipping and other companies, land owners, corn merchants, and agriculturists will be able to obtain the society's assistance in combating the plague of rats. The society will also co-operate with health committees, sanitary boards and municipal authorities. It has been decided to apply for a certificate of incorporation under Board of Trade License as a non-profit-making society. The society has no interest in any specific for the destruction of rats or other vermin. The Council of the Royal Institute of Public Health have kindly allowed the society to use the institute premises as a temporary address. The society will endeavour to secure Government, municipal and other public aid.

Yours etc.,

A. M. S.

INOCULATION AT ETAWAH.

To the Editor, The Indian Lancet.

Sir,—Major Morgan, the Civil Surgeon of Etawah, has been doing excellent work in plague inoculation in that district, and the people have readily come forward to be inoculated. The campaign began with the public inoculation of Mr. H. K. Gracey, the Collector, at Phaphund, and has progressed steadily. Several times nearly 100 persons were inoculated in a single day, and recently at Achalda 145 persons were inoculated in four hours, including 20 women, and the daughter of a local Thakur rais. The Thakur raises, notably Bhup Singh and Chandan Singh, have given great assistance.

Yours etc.,

J. B. B.

Wanted known, that a Dispensary, where all medical and surgical accessories are available has been opened at 3, Wellesely Street, under the name of Ellwood & Co. Dr. Das attends daily.

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Sublamine. A preparation containing Mercury Sulphate and Ethylenediamine in chemical combination. By the presence of Ethylenediamine the irritating action to the skin is entirely avoided, and, what is equally important, a most phenomenal penetrative power is secured for the metallic disinfectant, inasmuch as the presence of Ethylenediamine prevents the coagulation of the albuminous substances of the skin usually produced by metallic agents, and thus permits of easy and deep penetration of the Sublimate without any inconvenience. Recommended for thorough hand disinfection. [of Berlin.

Urotropine. Registered Trade Mark. Manufactured under the control of Prof. Dr. A. Nicolaier, A valuable urinary antiseptic and uric acid solvent, very efficient in all suppuratory diseases of genito-urinary tract, pyelitis, cystitis, with ammoniacal decomposition of the urine, phosphaturia, and also in gouty and rheumatic affections, where active elimination of uric acid and the urates is required. Highly recommended in typhoid bacteriuria as a prophylactic against the spread of typhoid fever.

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THIRTY YEARS OF CONFIDENCE on the part of the Profession have established, beyond all question, that

NERVOUS EXHAUSTION

NEW LIFE & VIGOR

Nervous Exhaustion, or Neurasthenia, as it is now called, is well defined by that world-famed scientist and investigator

DR. JAMES H. BEARD, M.A., M.D.,

to be "a chronic functional disease of the Nervous System, the basis of which is impoverishment of Nervous force, waste of Nerve tissue in excess of repair, hence the lack of inhibitory or controlling power—physical and mental—the feebleness and instability of nerve action, and the excessive sensitiveness and irritability, local and general, direct and reflex. The fatigue and pain that temporarily follow excessive toil or worry or deprivation of food or rest, are symptoms of Acute Neurasthenia, from which the chronic form differs only in permanence and degree. Nervousness is really Nervelessness." There are thousands of people who, given up as incurables, their strength and powers undermined as a result of Nervous Exhaustion, to whom "NEW LIFE AND VIGOR" are magic words, are languishing for the greatest of all blessings: Robust Health and Restored Vitality. To all such we commend the use of B. & S. SOLUTION, the celebrated remedy discovered by Dr. Lawrence, M.D., which has been used in all parts of the world for over quarter of a century.

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is a scientific exhibit of a combination of well-known drugs of the highest possible quality and at once recognizable by the therapeutist as a MOST VALUABLE NERVE TONIC

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This remarkable compound, the result of the latest developments of modern Chemistry, Pharmacology, and Therapeutics, is without an equal in all cases of Nervous Exhaustion and Premature decay, whether induced by worry, overwork, or other exhausting causes. As a real nervine tonic and invigorating agent it has no equal in the whole field of Therapeutics and may be relied upon to impart "NEW LIFE AND VIGOR," and to restore weakened constitutions to pristine strength and energy. When every other medicine has failed, B. and S. SOLUTION has been prescribed in the most inveterate cases by the best physicians with success, and there are thousands of living witnesses to attest to the benefits derived from this great modern invention. The Profession will find it to be without a rival and the finest medicine ever brought to their notice.

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Dr. Dhever, L.M.S., Shimoga: "My patient is improving."—Dr. Day, M.B., Tirhut: "From the use of one bottle of your preparation. I have received such encouraging report from a patient that I intend whenever I have a chance to recommend it."—Dr. Chill, M.A., M.D., Dhurrumpore: "The results are surprising and are more than I anticipated."—Dr. Das L.M.S., Dinapur: "Send another bottle. The first appears to have done some good."—Mr. M. M., Dacca: "Send three bottles, as ordered by Dr. Burnett." Mr. M., Kindat: "I am recommended by the Civil Surgeon that B. & S. Solution is a good remedy for Nervousness and Debility."—Dr. Spinner, B.A. M.D., Ootacamund: "I have used nothing in my practice better."—Dr. Mudliar Medical Specialist, Madras: "Surprised at the results."

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Reviews of Books.

The Pancreas—Its Surgery and Pathology. By A. W. Mayo Robson, D. Sc., F. R. C. S., and P. J. Cambridge, M D., D. P. H., London. Illustrated. Philadelphia and London. W. B. Saunders Co. 1907. 8vo. 546 pages. In Cloth and half Morocco

This book, from first to last, is entertaining, instructive reading. It points out the pancreas as not merely an accessory digestive gland, but a "structure indispensable for the metabolic needs of the organism." While the dependence of diabetes, in great part, upon altered pancreatic action, is stated, satisfactory explanation is not more clear in this than in other standard works. But it is with reference to the diagnosis of pancreatitis—acute, sub-acute and chronic—and other medical conditions of the pancreas that the book is a most valuable aid to the practitioner. Medical and surgical therapeutic advice are each clearly given. The ordinary bias of the surgeon is not manifest. This will long rank as a standard work on the pancreas—including its anatomy, physiology, diseases, etc.

Government Medical Notifications.

INDIA.

Fourth Class Assistant Surgeon Frank Lovegrove Plummer, is permitted to resign the service.

Second class Hospital Assistant Muhammad Abdul Majid, is permitted to resign the service.

Second class Hospital Assistant R. Varadarajulu Nayudu, is permitted to resign the service.

The services of Major J.G. Hulbert, M.B., I.M.S. (Bengal) are placed permanently at the disposal of the Government of the United Provinces.

The services of Captain J. D. Graham, M.B., I.M.S., are placed temporarily at the disposal of the Government of the United Provinces.

The services of Captain W. J. Collinson, M.B., I.M.S., are placed temporarily at the disposal of the Government of the Punjab for employment on plague duty.

The undermentioned officers are placed on special duty under the orders of the Sanitary Commissioner with the Government of India, with effect from the dates shown against their names:

Captain J C. G. Kunhardt, I.M.S.,—24th February 1908

Captain F. N. White, M.D., I.M.S —29th February 1908.

Captain Alfred Pullen, Indian Subordinate Medical Department, in subordinate charge of the Medical Store Depot, Calcutta, is granted one month's privilege leave, with effect from the 1st April 1908

BENGAL.

Captain T. H. Delany, I.M.S., is to appointed to be a Civil Surgeon of the second class and is posted to Sahabad, with effect from the afternoon of the 18th March 1908.

CENTRAL PROVINCES.

The services of Lieutenant-Colonel W. A. Quayle, I.M.S. Civil Surgeon and Superintendent, Lunatic Asylum, Jubbulpore, are placed at the disposal of the Government of India, Army Department, with effect from the date on which he may be relieved of his duties.

On return from the combined leave granted him by Orders No. 138, dated the 19th January 1907, and No. 2288, dated the 30th October 1907, Leiutenant-Colonel A. Silcock, I.M.S., Civil Surgeon, is posted to the Jubbulpore District.

The Chief Commissioner is pleased to appoint Lieutenant-Colonel A. Silcock I.M.S, Civil Surgoon, Jubbulpore, to be Superintendent, Lunatic Asylum, Jubbulpore.

UNITED PROVINCES.

The undermentioned Civil Hospital Assistants of the 1st grade are promoted to the senior grade on Rs. 70 per mensem from the dates indicated against each :—

Major J. G. Hulbert, I.M.S., Officiating Civil Surgeon, whose services have been permanently placed at the disposal of this Government, to be Civil Surgeon, 2nd class, vice Lieutenant-Colonel G. A. Emerson, I. M. S., retired,

BURMA.

Captain E. A. Walker, I. M. S., made over, and Captain J. M. Holmes, I. M. S, assumed, collateral charge of the Civil Surgeoncy of Bhamo District on the forenoon of the 30th March 1908.

Second Class Military Assistant Surgeon P. E. O'Donoghue relinquished charge of special plague duty with the Rangoon Municipality on the afternoon of the 13th March 1908 and assumed charge of special plague duty at Prome on the forenoon of the 16th March 1908.

The leave granted to Senior Grade Hospital Assistant, No. Ram Kanayi Dass, in this office Notification No. 345, dated the 7th of May 1907, is communted into three months' privilege leave combined with three months' leave on medical certificate.

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THE GREAT HAIR-PRODUCER & RESTORER.

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ELLWOOD'S

SURF SEA SALT.

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Cannot be over-estimated for promoting the health, strength, growth, and good looks of children. Is actually made from the sea and possesses all the medicinal and curative virtues which render sea bathing so beneficial, both in health and sickness from infancy to old age. Beware of worthless imitations. Analyses 99 $\frac{99}{100}$ per cent. of pure Salt, the crystals are easily dissolved, and much more convenient to use than any other brand. Per Tin, Re. 1. Per dozen, Rs. 11.

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ELLWOOD'S PILE-CURE PILLS.—Immediate relief. Operations are rarely necessary if these Pills are used regularly. They cure Piles of every form. Neat and clean. Pure and sure. Per Phial, Re. 1-8. Per doz., 16-8.

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Our world-renowned VRRILL is the ideal cure for nervous and physical debility, exhausting drains, mental dejections, loss of memory and energy, vital exhaustion and the thousand and one baneful evils due to early errors and excess. VRRILL is HEALTH! VRRILL is LIFE!! VRRILL is pleasant, prompt and positive. In one shilling (12 Annas) phials. Per dozen, Rs. 8-8.

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CAROLINE · SOBIESKI · LYNES · DAUGHTER · OF
JOHN · WYNNE · OF · GARTHMEILIO · ESQUIRE · AND
WIFE · OF · REVD · JOHN · LYNES · OF · TOOLEY · PARK ·
LEICESTER · DIED · AT · CHESTER ·
ON · 26TH · AUGUST · 1886 · AGED · 88 ·
AND · OF · EMMA · CATHERINE · LYNES ·
DAUGHTER · OF · THE · ABOVE · WHO · DIED · AT · CHESTER
ON 22ND APRIL · 1893 · AGED · 57
✝ BURIED · AT · ST CATHERINES · LLANGWM ✝

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MONUMENTAL SCULPTORS, ETC., ETC.,

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Highest Quality Church Mural Brass Tablets. Plaster of Prais for Studious. Hospitals, and Engineering and building purposes.

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THIOCOL "ROCHE."

For the Treatment of Tuberculosis.

ADVANTAGES OF THIOCOL OVER ALL OTHER GUAIACOL PREPARATIONS:

THIOCOL is non-toxic.
THIOCOL is absolutely inodorous.
THIOCOL is readily soluble in water.
THIOCOL has no irritating effect upon the mucous membrane.
THIOCOL is rapidly absorbed by the system.

THIOCOL TABLETS "Roche," 0·5 grammes (=8 grains), in tubes of twenty-five.

SIROLIN, an ORANGE SYRUP of **THIOCOL,** keeps indefinitely, and never spoils. Pleasant flavor. In original bottles only, of about 150 grammes=about 5 ozs.

AIROL "ROCHE."

FOR THE TREATMENT OF

Wounds, Burns, Varicose Ulcers of the Leg, Inflammation of the Cornea, &c.

ADVANTAGES OF AIROL OVER IODOFORM:

AIROL is non-toxic.
AIROL is inodorous.
AIROL has no irritating effect.
AIROL dries up wounds readily.
AIROL assists the granulating process.
AIROL in contact with warm secretions of the body immediately gives off a small quantity of Iodine.
AIROL contains Bismuth.

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As used in the Harems of Persia and the East

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NOTHING ELSE LIKE IT FOR THE HAIR

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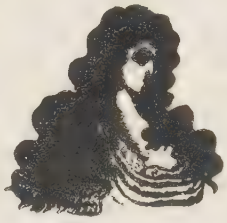

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Produces Luxuriant Hair, Prevents its Falling off or Turning Grey. Unequalled for Promoting the Growth of the Beard and Moustache.

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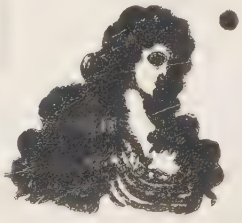

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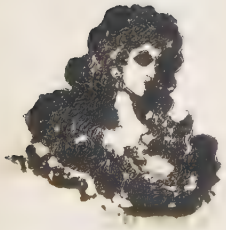

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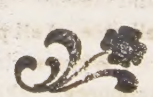

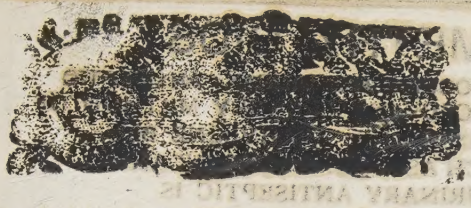

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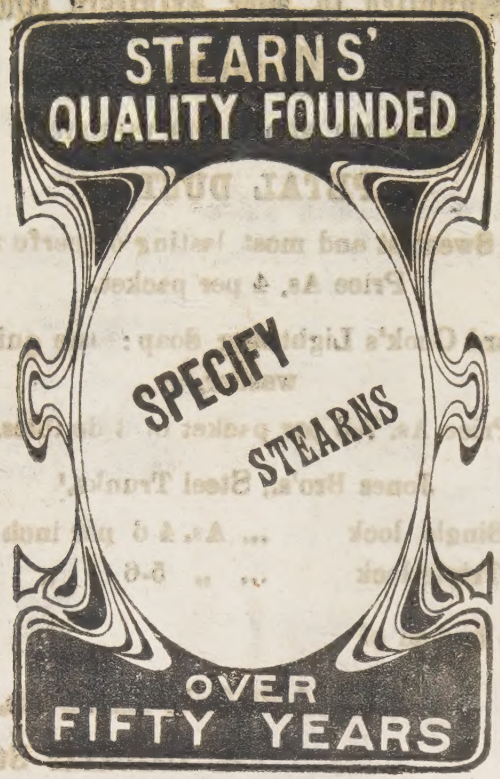
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